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West Mojave Route Network Project
Draft California Desert Conservation Plan Amendment
and
Supplemental Environmental Impact Statement
for the
California Desert District

January 2015

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The BLM manages more land – 253 million acres – than any other federal agency. This land, known as the National System of Public Lands, is primarily located in 12 Western States, including Alaska. The Bureau, with a budget of about $1 billion, also administers 700 million acres of subsurface mineral estate throughout the nation. The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT

California Desert District Office
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

IN REPLY REFER TO:
1610 (LLCAD080.21) P

January, 2015

Dear Reader:

Attached for your review and comment is the West Mojave Route Network Project (WMRNP) and Draft Supplemental Environmental Impact Statement (SEIS), California Desert District. Through this Resource Management Plan Amendment, the BLM is amending the 1980 California Desert Conservation Area (CDCA) Plan, as amended. The WMRNP specifically amends the decisions in the 2006 West Mojave (WEMO) Plan Amendment to the CDCA Plan for the planning and management of a transportation and travel network and livestock grazing on public lands within the West Mojave Planning Area. The Bureau of Land Management (BLM) has prepared this document in accordance with the National Environmental Policy Act (NEPA), as amended, the Federal Land Policy and Management Act of 1976 (FLPMA), implementing regulations, the BLM's Land Use Planning Handbook (H1601-1), and other applicable law and policy.

The West Mojave Planning Area is located in southern California, in the northwestern third of the CDCA, and comprises approximately 9.4 million acres of land. Within the Planning Area, the BLM administers approximately 3.1 million acres of public lands.

The WMRNP also includes implementation-level decisions, including a transportation and travel network which designates specific routes of travel in the planning area, and related implementation strategies. When approved, the WMRNP will supplement the 2006 West Mojave Plan and will guide the management of transportation and travel management in the West Mojave Planning Area into the future. The WMRNP and Draft SEIS and supporting information are available on the project web site at:
http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html.

The BLM encourages the public to provide information and comments pertaining to the analysis presented in the Draft SEIS. We are particularly interested in feedback concerning the alternatives, associated goals and objectives, adequacy and accuracy of the analysis, and any new information that would help the BLM as it develops its plan and decision. If you wish to submit comments on the WMRNP and Draft SEIS, we request that you make your comments as specific as possible. Comments will be more helpful if they include suggested changes, sources, or methodologies, and reference to a section or page number.

Comments will be accepted for ninety (90) days following the Environmental Protection Agency's (EPA) publication of its Notice of Availability in the Federal Register. The BLM can best utilize your comments and resource information submissions if received within the review period.

Comments may be submitted electronically at: cawemopa@blm.gov. Comments may also be submitted by mail to: California Desert District, Attn: WMRNP Plan Amendment, 22835 Calle San Juan de Los Lagos, Moreno Valley, CA 92553. To facilitate analysis of comments and information submitted, we encourage you to submit comments in an electronic format.

In developing the Final SEIS and CDCA Plan Amendment, which is the next phase of the planning process, the decision maker may select various components from among the alternatives analyzed in the Draft SEIS for the purpose of creating a management strategy that best meets the needs of the resources and values under the BLM multiple-use and sustained yield mandate. As a member of the public, your timely comments on the WMRNP and Draft SEIS will help formulate the Final SEIS and CDCA Plan Amendment. Comments which contain only opinion or preferences will be considered and included as part of the decision making process, although they will not receive a formal response from the BLM.

Before including your address, phone number, email address, or other personal identifying information in your comment, be advised that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can request to withhold your personal identifying information from public review, BLM cannot guarantee that we will be able to do so.

Public meetings to provide an overview of the document, respond to questions, and take public comments will be announced by the local media, website, and/or public mailings at least 15 days in advance. Copies of the Draft SEIS have been sent to affected Federal, state, and local government agencies. Copies of the WMRNP and Draft SEIS are available for public inspection at the BLM California Desert District Office and all BLM Field Offices within the California Desert District.

Copies are also available for public inspection at the following local library locations:

Kern County Library, Ridgecrest Branch, 131 E Las Flores Ave, Ridgecrest, CA;
Kern County Library, California City Branch, 9507 California City Blvd, California City;
San Bernardino County Library, 57098 29 Palms Highway, Yucca Valley, CA;
Victorville City Library, 15011 Circle Drive, Victorville, CA;
San Bernardino County Library, 777 East Rialto Avenue, San Bernardino, CA.

Thank you for your continued interest in the WMRNP. We appreciate the information and suggestions you contribute to the planning process. For additional information or clarification regarding this document or the planning process, please contact Edy Seehafer, West Mojave Project Manager, Barstow Field Office, 760-252-6021 or Craig Beck, Assistant West Mojave Project Manager, Ridgecrest Field Office, 760-384-5440.

Sincerely,

Teresa A. Raml
District Manager, California Desert

Abstract

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Lead Agency: U.S. Department of the Interior (DOI), Bureau of Land Management (BLM)

Type of Action: Administrative

Jurisdiction: San Bernardino, Inyo, Kern, Riverside, and Los Angeles Counties, California

Abstract: The Draft West Mojave Route Network Project (WMRNP) and Supplemental Environmental Impact Statement (SEIS) describe and analyze alternatives for the planning and management of a transportation and travel network and livestock grazing on public lands and resources within the West Mojave Planning Area, administered by the BLM, California Desert District Office. The West Mojave (WEMO) Planning Area is located in southern California, in the northwestern third of the California Desert Conservation Area (CDCA), and comprises approximately 9.4 million acres of land. Within the Decision Area, the BLM administers approximately 3.1 million acres of public lands.

Through this Resource Management Plan (RMP) Amendment, the BLM is amending the 1980 CDCA Plan, as amended. The WMRNP Plan Amendment specifically amends the decisions in the 2006 West Mojave Plan Amendment to the CDCA Plan. It addresses specific issues raised in a federal court partial remand of the 2006 WEMO Plan and to consider new data and policies, emerging issues, and changing circumstances that have occurred since the 2006 WEMO Plan Record of Decision was signed. Many aspects of the 2006 WEMO Plan, developed as a habitat conservation plan to address sensitive species management, were kept in place. As part of the RMP amendment process, the BLM conducted scoping to solicit input from the public and interested agencies on the nature and extent of issues and impacts to be addressed in the Draft RMP Amendment and Draft SEIS. Planning issues identified for this WMRNP RMP Plan Amendment focus on transportation access for the public, commercial users, residents, associated recreational use, access impacts on sensitive resources, and livestock grazing management within the WEMO Planning Area.

The WMRNP also includes implementation-level decisions, including a transportation and travel network which designates specific routes of travel in the WEMO Planning Area, and related implementation strategies.

To assist the agency decision maker and the public in focusing on appropriate solutions to planning issues, the Draft EIS considers four alternatives. These alternatives include both Plan Amendment and implementation actions.

Alternative 1 is a continuation of current management (No Action Alternative). Under this alternative, the BLM would continue to manage the use of and access to public lands and resources, including livestock grazing, under the existing 2006 WEMO Plan, as amended. **Alternative 2** emphasizes protection of physical, biological, and heritage resources, while providing for the smallest transportation and travel network focused on through-access, and the most limited acreage and forage allocation dedicated to livestock grazing, comparatively. **Alternative 3** is the BLM's Preferred Alternative, and provides for the most extensive transportation and travel network focused on enhanced recreational and touring opportunities and a balanced livestock grazing program with modest acreage and forage allocation reductions. **Alternative** 4 limits changes to the 2006 WEMO Plan to respond to community-identified

enhancements and Court issues, with the least amount of changes to the transportation and travel network and limited reductions to the acreages and forage allocations dedicated to livestock grazing.

When completed, the ROD for the RMP Plan Amendment will provide comprehensive long-range decisions for (1) managing transportation and travel management resources in the West Mojave Planning Area and (2) identifying allowable livestock grazing management uses on BLM-administered public lands. Comments are accepted for 90 days following the date on which the U.S. Environmental Protection Agency publishes the Notice of Availability for this Draft Plan Amendment and Draft SEIS in the *Federal Register*. Comments may be submitted electronically using the WMRNP revision website at: http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html or via e-mail to cawemopa@blm.gov. Comments may also be submitted by mail to:

California Desert District, Attn: WMRNP Plan Amendment, 22835 Calle San Juan de Los Lagos, Moreno Valley, CA 92553

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EXECUTIVE SUMMARY

This Supplemental Environmental Impact Statement (SEIS) evaluates the environmental impacts associated with the Bureau of Land Management's (BLM's) West Mojave Route Network Project (WMRNP), an undertaking which includes a combination of route network designations, implementation strategies, changes to grazing allotments, and travel management-related plan amendments to the California Desert Conservation Area (CDCA) Plan. The analysis in the SEIS revisits and updates the 2005 WEMO Final EIS analysis of environmental impacts associated with motor vehicle access including soils, air, cultural, riparian and water-associated Unusual Plant Assemblages (UPAs), and certain biological resources, and environmental impacts associated with the grazing program, including soils and riparian and other water-associated UPAs.

The WEMO Planning area is located to the north of the Los Angeles metropolitan area (See Figure 1-1). The WEMO Planning area currently totals 9.4 million acres, of which approximately 3.1 million acres are BLM administered public lands. The 2012-2013 inventory of routes identified approximately 15,000 miles of linear features outside of OHV Open Areas on public lands. These linear features either are currently being used as OHV or primitive routes, or historically have been used for these purposes and still show some evidence of that use.

ES.1 Introduction

Current West Mojave Plan

The conservation program established by the 2006 WEMO Plan amendments to the CDCA Plan applies to the BLM-administered public lands in the planning area. The WMRNP amendment to the Motorized Vehicle Element of the CDCA Plan, the route designation process that would be incorporated into the CDCA Plan, if approved, and the changes to grazing allotments would be applicable only to the BLM-administered public lands within the WEMO Planning area.

Plan Goals

The WEMO Plan approved in 2006 is a federal land use plan amendment that presents (1) a comprehensive strategy to conserve and protect the desert tortoise, the Mohave ground squirrel and over 100 other sensitive plants and animals and the natural communities of which they are a part, and (2) a streamlined program for complying with the requirements of the federal and California Endangered Species Acts (FESA and CESA, respectively). The 2006 WEMO Plan includes modification of the vehicle management program and livestock grazing program to promote the adopted conservation strategy. The 2006 WEMO Plan designated an OHV route network in applicable areas of the public land within the West Mojave Planning Area of the CDCA. Routes that are part of the route network and are regularly available for vehicular use are designated as Open routes as per the CDCA Plan, MVA Element (CDCA 1999, p.77).

Relation to CDCA Plan Elements

The CDCA Plan of 1980 addressed public-land resources and resource uses within 25 million acres of public land in southern California. The CDCA Plan includes 12 plan elements, including a Motorized-Vehicle Access (MVA) Element. The MVA Element of the CDCA Plan addresses

both access and vehicular use of public lands in southern California, and identified management guidelines and objectives. The MVA Element of the CDCA Plan contains language that has been judicially determined to restrict motorized vehicle routes to those that existed in 1980, and goals and objectives that, either in practice or through amendment, have been updated since 1980 to implement current policy.

The CDCA Plan has been amended several times since 1980. In 2006, the BLM approved a comprehensive amendment covering the WEMO area of the CDCA. The West Mojave Plan Amendment (WEMO Plan) was evaluated in a Final EIS that was approved by BLM in a Record of Decision (ROD) in 2006. The 2006 WEMO Plan includes modification of vehicle management decisions, including the identification of a designated OHV route network, in applicable areas of the more than 3 million acres of public land within the WEMO Planning area of the CDCA. Routes that are part of the route network and are regularly available to the public for vehicular use are designated as Open routes as per the CDCA Plan. The ROD for the WEMO Plan approved the designation of 5,098 miles of motorized vehicle routes. The 2006 route network and other travel management decisions were remanded to BLM for reconsideration.

The 2006 WEMO Plan modifications of the livestock grazing program include, among others:

- Elimination of the majority of ephemeral sheep grazing within sheep grazing allotments located in DWMAs;
- Elimination of ephemeral grazing within cattle and horse grazing allotments when forage is inadequate;
- Elimination of ephemeral grazing and temporary non-renewable grazing authorization within cattle grazing allotments located in DWMAs;
- Measures to remove grazing through temporary closures in cattle grazing allotments in DWMAs when forage is inadequate;
- Measures to allow voluntarily relinquishment of allotments located in DWMAs and other special status species habitat.

The current SEIS evaluates no action and three alternative route networks, as well as language changes within the CDCA Plan. The three action alternatives include variations in (1) the land-use plan level decisions in the Motor Vehicle Access Element and Recreation Element of the CDCA Plan that establish the travel management framework for the West Mojave Planning Area, (2) non-land use plan route designations that provide a transportation and travel network and the strategies to implement the network and (3) the land-use plan decisions in the Livestock Grazing Element of the CDCA Plan that establish the locations and levels of livestock grazing in desert tortoise Desert Wildlife Management Areas (DWMAs) within the West Mojave Planning Area.

Purpose and Need for Supplemental EIS

The purpose and need of the West Mojave Route Network Project (WMRNP) is to provide a framework for transportation management, and specific travel management implementation strategies in Limited Access Areas of the West Mojave Planning Area. This framework and these strategies would (1) limit conflicts and threats to sensitive resources, (2) respond to current and anticipated future transportation and travel needs, (3) provide appropriate recreational access, and (4) be consistent with the overall motor vehicle access goal of the 2006 WEMO Plan. The MVA goal of

the 2006 WEMO Plan is to provide appropriate motorized vehicle access to public lands for commercial, recreational, and other purposes in a manner that is compatible with species conservation. In addition, two modifications to the 2006 WEMO livestock grazing program are under consideration, one that would make all allotments in DWMA and other critical habitat unavailable for livestock grazing, and the other that would make some or all allotments unavailable for livestock grazing as they become vacant. The Supplemental Environmental Impact Statement (SEIS) will also analyze access and grazing impacts on specific resources in response to the Court's statements of inadequacy, as summarized in the Court Remedy Order (January 28, 2011, p.3-4) and further discussed in Section 1.1.3. As discussed in the original NOI and the revised NOI, BLM needs to amend the CDCA Plan to modify language regarding the process for designating routes within the WEMO area, and to establish a route network based on the requirements of BLM policy and regulation, including 43 CFR 8342.1 and the 2012 BLM Travel and Transportation Management Handbook (H-8342-1). In addition, BLM needs to respond to specific issues related to the US District Court WEMO Remand Remedy Order issued in 2011, and update WEMO Plan baseline information where appropriate.

Scope of the Supplemental EIS

Plan Amendments

The 2012 Travel Management guidance (Handbook 8342-1) makes clear distinctions between the land-use planning decisions to adopt a travel management framework, and decisions to implement the travel management planning framework. The CDCA Plan had already made some of these transportation and travel management decisions in designating lands within the CDCA as open, closed or limited for motorized access. The CDCA Plan amendment decisions being considered in this SEIS, and the purpose and need for each, are as follows:

1) Replace or modify the following CDCA Plan language in the MVA Element: "at the minimum, use will be restricted to existing routes of travel."

This language was not specifically updated in the 2006 West Mojave Plan. In the Summary Judgment Order, the Court stated that BLM has the authority to amend the Plan to lift this restriction, as long as those amendments satisfy NEPA, FLPMA, and all other applicable statutes and regulations. BLM has determined that a restriction of motorized routes to those that existed in 1980 does not comply with requirements of the following policy and regulations applicable to transportation planning:

- BLM regulations in 43 CFR 8342.1, which requires designation of public lands as open, limited, or closed based on protection of resources of the public lands, safety of all users, and minimization of conflicts among the various uses of the public lands, and in accordance with the designation criteria provided in the regulation;
- BLM Handbook 1610-1, Appendix C, Comprehensive Trails and Travel Management, which requires delineation of travel management areas and designation of Off-Highway Vehicle Management Areas as open, limited, or closed; and
- BLM Handbook 8342, Travel and Transportation Management Handbook, which describes how BLM is to comprehensively manage travel and transportation on public land.

In order to modify the CDCA Plan to comply with the regulations and policies cited above in the West Mojave Planning Area, BLM has identified a need to replace the existing CDCA Plan language.

2) Develop a strategy and adopt a route designation process within the West Mojave Planning Area that addresses the regulatory requirements and court identified FLPMA and NEPA inadequacies.

The route designation process to be adopted would consider and document its consideration of the route designation criteria in 43 CFR 8342.1 and other applicable laws, regulations, and policies. The route designation process would include strategies to minimize impacts consistent with regulations that are applied at the outset of the process. By BLM policy, the process for designating travel routes is currently found in Bureau guidance issued in 2005 and subsequent releases, including the 2012 handbook, as identified above. These guidance documents were released too late to be incorporated into the 2006 West Mojave Plan but have been considered in this planning effort. A broader range of alternatives would be considered, including at least one alternative that analyzes a less extensive route network for the West Mojave Planning Area than the No Action alternative. The route designations would exclude areas newly closed as a result of wilderness legislation, would provide mechanisms for future route designations as lands are acquired by BLM, and would provide mechanisms to redesignate routes as available for use or as closed, as deemed necessary and as consistent with regulations, plans, and NEPA requirements.

3) Clarify the Motorized Vehicle Access (MVA) Element of the CDCA Plan as it relates to the West Mojave Planning Area to clearly reflect current policy on resource management planning and implementation decisions, and to reconsider broad planning-level access decisions.

Consistent with the 2005 and 2012 travel management guidance referenced above, the proposed plan amendment would provide the framework for a comprehensive transportation and travel network on public lands in the West Mojave Planning Area, including consideration of both public and other (e.g., commercial) access needs and opportunities on public lands as part of the comprehensive transportation and travel network, recognizing the changing nature of access needs, and the relevance of non-motorized and non-mechanized as well as motorized travel on public lands.

As one element of the proposed changes, planning-level access parameters of the MVA element that may further minimize impacts from the network are under consideration, including lakebed designations and measures for stopping, parking, and camping areas adjacent to designated routes. Recreation Element access parameters that may further minimize impacts from the network are also under reconsideration, including the designation of competitive event corridors and guidelines for permitting competitive events. Boundary modifications to open, closed and limited areas are being recognized considered only insofar as legislative changes have occurred since the release of the 2006 West Mojave Plan. No other boundary changes to open, closed, or limited access areas are proposed in this Supplemental EIS.

4) Identify geographical units within the West Mojave Planning Area as Travel Management Areas (TMAs) within which BLM will issue activity-level decisions to implement adopted travel management strategies.

The new Travel Management guidance recommends adoption of smaller geographical units--Travel Management Areas (TMAs) based on commonalities, such as geography, patterns of use, common transportation issues, ease of management, and resource values. TMA objectives may also be adopted in the land use plan to facilitate the implementation of proposed travel management strategies. This WEMO Travel Management Route Network plan amendment adopts initial travel management objectives for each TMA.

5) Reconsider plan-level grazing decisions for allotments within DWMAs.

The BLM grazing program was analyzed in the 2006 WEMO Plan, and the decisions from the planning effort led to grazing that was substantially curtailed in desert tortoise DWMAs, with additional measures included for the allotments that are still available or potentially available for grazing. In addition, a mechanism for voluntary relinquishment of active leases was adopted in the WEMO Plan. In addition to these measures, the strategy of eliminating livestock grazing from desert tortoise recovery areas was recommended in the 1994 Recovery Plan. Although no longer specifically recommended in the 2011 Revised Recovery Plan, elimination of livestock grazing is consistent with the recovery plan recommendation of "continuing to minimize impacts to tortoises from livestock grazing within tortoise recovery areas" (*Revised Recovery Plan for the Mojave Population of the Desert Tortoise,* May 6, 2011, Section 2.16, p. 78). Therefore, BLM is considering whether to further modify the BLM grazing program in the WEMO Planning area by reducing or completely eliminating grazing in DWMAs.

BLM implementation of the proposed amendment of the CDCA Plan would require approval by the BLM's California State Director through a Record of Decision (ROD). This approval process would include the amendment of the CDCA Plan to adopt the provisions of the 2006 West Mojave Plan that were left in place, except as modified herein. The decisions that would be necessary to implement each alternative are listed in Chapter 2.

Relationship to Implementation Decisions

Plan-level decisions include the adoption of an overall travel management strategy and the designation of TMAs that identify the geographic extent of each implementation area. The particular implementation strategies for minimizing impacts from the network, managing, monitoring, mitigating, and eliminating routes in a route network are not plan-level decisions. Some activity-level implementation decisions are also area-wide, including general approaches and priorities for monitoring, mitigation, and law enforcement, which may quickly change as on-the-ground circumstances change. Other activity-level implementation decisions are location or route-specific, including route designations, route-specific minimization strategies, and specific area outreach strategies. Activity-level implementation decisions may be made concurrent with or subsequent to plan-level travel management strategies.

Concurrent activity-level travel management implementation plans are being developed for the West Mojave Planning Area. The activity-level travel management plans will be finalized after consideration of public input on the Draft SEIS travel management framework, on the route network alternatives and other draft implementation strategies, environmental effects, and proposed strategies to mitigate impacts. Based on the input by the public and others on the Draft SEIS and alternatives, a proposed activity-level management plan will be developed for each proposed TMAs from the draft SEIS alternatives. The proposed implementation plans will be circulated with the Final SEIS.

Future changes to the implementation plans, refinement of TMA boundaries, and additional implementation plan objectives may be considered based on changing needs and issues, subsequent activity-plan monitoring, and implementation focus within the TMA, consistent with the parameters adopted in the WMRNP plan amendment and in each specific implementation plan.

Relationship to Court Actions

Shortly after the completion of the 2006 WEMO Plan, a lawsuit was filed challenging the route designation process and other procedural aspects of the 2006 WEMO Plan (*Center for Biological Diversity, et al. v. BLM, et al.*, 3:06-CV-04884 SI (N.D.Cal.)). The United States District Court for the Northern District of California (the Court) issued a Summary Judgment Order on September 28, 2009 finding that BLM's travel management plan was legally inadequate, and a Remedy Order on January 28, 2011 setting forth the means by which BLM was to resolve the legal infirmities identified by the court.

The Remedy Order partially vacated the 2006 WEMO ROD, citing the potential for unpredictable or irreversible environmental consequences if the full ROD were subject to complete vacatur. The general finding related to travel management was that complete vacatur of the OHV route network was not warranted.

Accordingly, BLM has determined that development of the current SEIS, tiered from the 2005 WEMO Final EIS, is appropriate. This SEIS has been developed to inform BLM's evaluation of a plan amendment proposal and alternatives for its grazing program and transportation and travel management program, and associated non-land use plan transportation and travel management implementation strategy and route network alternatives, within the West Mojave Planning Area, to address deficiencies identified by the Court, and to serve as BLM's NEPA compliance document.

ES.2 Supplemental EIS Goals

All alternatives incorporate the CDCA Plan goal to provide for the use and access to public lands, and resources within the CDCA, including economic, educational, scientific, and recreational uses, in a manner which enhances, wherever possible—and which does not diminish, on balance—the environmental, cultural and aesthetic values of the desert and of its productivity, as identified in Sections 601 and 103 of FLPMA. The CDCA Plan recognized the sometimes complex and conflicting mandates that provide for both use and protection of a variety of public resources, and the key role of access across public lands.

The adopted framework to update the MVA Element and specific travel management strategies would (1) limit conflicts and threats to sensitive resources, (2) respond to current and anticipated future transportation and travel needs, (3) provide appropriate recreational access, and (4) are consistent with the overall motor vehicle access goal of the 2006 WEMO Plan.

The Livestock Grazing Element of the CDCA Plan also provides overarching guidance. The goals of the CDCA Plan Livestock Grazing Element are to:

1. Use range management to maintain or improve vegetation to meet livestock needs and to meet other management needs set forth in the Plan.

2. Continue the use of the California Desert for livestock production to contribute to satisfying the need for food and fiber from public land.
3. Maintain good and excellent range condition and improve poor and fair range condition by one condition class through development and implementation of feasible grazing systems or Allotment Management Plans (AMPs). Adjust livestock use where monitoring data indicate changes are necessary to meet resource objectives.

CDCA Plan/2006 WEMO RMP Goals

- Designate a transportation and travel system on public lands, and provide implementation strategies for the system;
- Provide for constrained motorized vehicle access in a manner that balances the needs of all desert users, private landowners, and other public agencies;
- When designating or amending areas for motorized vehicle access, to the degree possible, avoid adverse impacts to desert resources;
- Use maps, signs, and published information, including electronic media, to communicate the motorized vehicle access situation to desert uses. Be sure all information materials are understandable and easy to follow;
- Continue to provide access and opportunities for exploration and development on public lands which are accessed or have potential for:
  i. Critical mineral resources (national defense; 50+% importer; net importer)
  ii. Potential energy resources (geothermal, oil, gas, uranium, and thorium)
  iii. Minerals of local and State importance (sand & gravel, limestone, gypsum, iron, specialty clays, zeolites)

CDCA Plan/2006 WEMO Plan Motor Vehicle Access Objectives

- In limited areas, designate a transportation system consisting of motorized-vehicular access routes. Users of the transportation system will be directed toward use of primary vehicular routes that form the backbone of the travel network. These routes are intended for regular use and for linking desert attractions for the general public. Secondary motorized, mechanized, and trail routes will be designated to meet specific user needs.
- When revising the route network, pay particular attention to tortoise critical habitat and identified sensitive locales.
- Routes not designated for vehicle access will be prioritized for elimination or modification through implementation strategies. Various methods such as obliteration, barricading, signing, conversion to non-motorized trails, or natural revegetation may be employed. Those routes that conflict with management objectives or cause unacceptable resource damage will be given priority.
- Route designation changes are anticipated within the transportation system as casual, authorized, and administrative uses change. Changes will be in compliance with applicable law. In all instances, new routes for permanent or temporary use would be

selected to minimize resource damage and use conflicts, consistent with area goals and the criteria of 43 CFR 8342.1.

CDCA Plan/2006 WEMO Livestock Grazing Changes

The CDCA Plan also analyzed seven alternatives with respect to the number of livestock allotments, the livestock to be grazed on each allotment, the type of allotment (perennial, ephemeral, or a combination), the amount of forage in each allotment dedicated to livestock, to wildlife, and to wild horses and burros, and the resulting livestock carrying capacity.

Key changes to the CDCA Plan Livestock Grazing Element made in the 2006 WEMO Plan (see pages 2-131-133 of the 2005 WEMO FEIS) include:

1. Adopt Regional Standards and Guidelines for the management of the grazing program. The adoption of Regional Standards and Guidelines are dependent upon the approval by the Secretary of the Interior.
2. Make the majority of ephemeral sheep/cattle grazing allotments in DWMA unavailable for grazing use, to include: Portions of the Buckhorn Canyon, East and West Stoddard, and Monolith-Cantil Allotments, and the entire Gravel Hills, Superior Valley and Goldstone Allotments.
3. Discontinue ephemeral grazing within cattle grazing allotments when forage is below 230 lbs. per acre (a change from the CDCA Plan 200 lbs. per acre threshold);
4. Discontinue the use of ephemeral grazing and temporary non-renewable grazing authorization within cattle grazing allotments located in DWMA;
5. Provide for voluntarily relinquishment of allotments located in DWMA and other special status species habitat, and, upon relinquishment, make such allotments unavailable for grazing.
6. Manage grazing in remaining active allotments consistent with the CDCA Plan Livestock Grazing Element goals and planning objectives adopted in the 2006 WEMO Plan, including additional objectives for management of grazing in active allotments within DWMAs and CHU, unless and until the specific allotments are proposed for change through plan amendment, either in this document or through future amendment.

Current Travel and Transportation Management (TTM) Planning Goals

- Include "OHV Area" (i.e., Open, Closed, Limited Area) designations for all areas within the planning boundary, consistent with 43 CFR 8341 and 8342. For the CDCA, these designations were already made in the 1980 CDCA Plan and/or subsequent amendments.
- Delineate Travel Management Areas (TMAs) to address particular resource issues and prescribe specific management actions for a defined geographic area.

Current TTM Implementation Goals

Define the following elements to be included as part of Travel Management Plan implementation:

- Plan for signing;

- Education plan or strategy to communicate Transportation and Travel Management decisions to users;
- Enforcement plan;
- Rehabilitation plan for any routes closed or otherwise unauthorized;
- Development of maps, also to communicate Transportation and Travel Management requirements to users;
- Plan for maintenance intensity;
- Monitoring plan to evaluate the effectiveness of the WEMO Plan in achieving management objectives;
- Development of management objectives;
- Development of adaptive management principles, including means for making changes to the travel network;
- Definition of roadside camp and pull-off limitations; and
- Supplementary rules, if any.

Based on analysis and feedback from this Draft SEIS, BLM will adopt a proposed route network for each TMA that forms the basis for other elements of each site-specific implementation plan, including any additional minimization measures, signage, monitoring, mitigation strategies and other implementation-level decisions. Separate decision records will be developed for each site-specific implementation plan.

ES.3 Alternatives

No Action and three other alternatives have been developed and are considered in the WMRNP SEIS. These alternatives are as follows:

Alternative 1—No Action

- CDCA Plan Goals and Objectives
- Area-wide increased minimization in critical habitat
- Case-by-case minimization
- Restoration focused implementation
- 5,338 miles of motorized routes

Alternative 2—Resource Conservation Enhancement

- Through-access oriented Goals and Objectives
- Area-wide increased minimization strategy across all public lands and case-by-case mitigation
- Closure-focused route designation strategy
- 4,293 miles of motorized routes

Alternative 3—Public Lands Access (Preferred Alternative)

- Destination- and Touring-access oriented Goals and Objectives
- Area-wide increased minimization strategy across all public lands and case-by-case mitigation
- Less emphasis on closure as a strategy, more emphasis on alternate strategies
- Network-enhancement focused implementation
- 10,428 miles of motorized routes

Alternative 4—Community Access Enhancement

- Destination- and Touring-access oriented Goals and Objectives
- Area-wide increased minimization across all public lands and case-by-case mitigation
- Balanced minimization strategy, emphasis on closure or avoidance
- 5,782 miles of motorized routes

As discussed in Sections 2.1.1 and 2.1.2, each of the alternatives is composed of RMP-level decisions and implementation-level decisions. The Preferred Alternative that the agency has identified in the Draft SEIS is the Alternative 3 travel management framework and objectives, with associated RMP-level decisions and a travel network consistent with the Alternative 3 framework; however BLM anticipates modifying the preferred framework and route network for the Final Proposed Action based on ongoing consultation activities and on public, tribal, and agency feedback on the Supplemental EIS, travel management goals and objectives, and specific routes within the network alternatives. The proposed action will also reflect ongoing data collection, and GIS updates.

The alternatives analyzed in Chapter 4 include four alternatives for each of the Plan Amendments and four route implementation strategies, including route networks. The proposed action in the Final Supplemental EIS and Plan Amendment may eventually provide a fifth alternative as a combination of the current alternatives, or may be an adoption of one of the current alternatives. BLM-proposed activity plans will be included as appendices within the Final SEIS, and will tier from the proposed WMRNP Plan Amendment.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Air Quality	The magnitude of air emissions is the same for all alternatives. The No Action alternative over the long term, shows a substantial reduction in areas that would be susceptible to fugitive dust emissions. Mileage of routes near sensitive receptors and residences is only slightly more than in Alternative 2, and grazing impacts do not appreciably differ.	The magnitude of air emissions is the same for all alternatives. Alternative 2 over the long term, shows a substantial reduction in areas that would be susceptible to fugitive dust emissions, modestly greater than No Action. Alternative 2 has the lowest mileage of routes near sensitive receptors and residences, and grazing impacts do not appreciably differ.	The magnitude of air emissions is the same for all alternatives. Alternative 3 over the long term, shows a moderate reduction in areas that would be susceptible to fugitive dust emissions, which would be less than the other alternatives. Alternative 3 has the highest mileage of routes near sensitive receptors and residences, and grazing impacts do not appreciably differ.	The magnitude of air emissions is the same for all alternatives. Alternative 4 over the long term, shows a substantial reduction in areas that would be susceptible to fugitive dust emissions, which would be less than No Action and Alternative 2 but greater than Alternative 3. Mileage of routes near sensitive receptors and residences is approximately the same as Alternative 1, and grazing impacts do not appreciably differ.
Climate Change	None of the alternatives would lead to a change in the motorized vehicle use or miles traveled in the planning area, and therefore none of the alternatives would result in any increase or decrease in direct or indirect GHG emissions from motorized vehicles or livestock grazing.	None of the alternatives would lead to a change in the motorized vehicle use or miles traveled in the planning area, and therefore none of the alternatives would result in any increase or decrease in direct or indirect GHG emissions from motorized vehicles or livestock grazing.	None of the alternatives would lead to a change in the motorized vehicle use or miles traveled in the planning area, and therefore none of the alternatives would result in any increase or decrease in direct or indirect GHG emissions from motorized vehicles or livestock grazing.	None of the alternatives would lead to a change in the motorized vehicle use or miles traveled in the planning area, and therefore none of the alternatives would result in any increase or decrease in direct or indirect GHG emissions from motorized vehicles or livestock grazing.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Geology, Soil, and Water Resources	The mileage of routes near desert washes and riparian areas in Alternative 1 is slightly higher than in Alternative 2. Soil and riparian impacts would decrease as a result of livestock grazing measures adopted in the 2006 WEMO Plan. The magnitude of erosion and compaction impacts would be higher for No Action than Alternative 2, and would be higher than under other alternatives if future grazing is authorized in vacant allotments under the 2006 WEMO Plan. Riparian impacts do not substantially vary between alternatives since most natural water sources used by livestock are excluded by fencing.	The route network under Alternative 2 would have the lowest mileage of motorized routes in close proximity to washes, riparian areas, springs, and erosion-prone areas. Therefore, it would have the lowest magnitude of direct, adverse impacts to geology, soil, and water resources, and the lowest contribution to cumulative impacts. The magnitude of erosion and compaction impacts would be lower for Alternative2 than for all other alternatives. Riparian impacts are the same as No Action.	The route network under Alternative 3 would have the highest mileage of motorized routes in close proximity to washes, riparian areas, springs, and erosion-prone areas. Therefore, it would have the largest magnitude of direct, adverse impacts to geology, soil, and water resources, and the largest contribution to cumulative impacts. The magnitude of erosion and compaction impacts could be lower for Alternative 3 than for No Action, over the long term (if future grazing is authorized under No Action), and would be higher than Alternative 2. Riparian impacts are the same as No Action.	The mileage of routes near desert washes and riparian areas in Alternative 4 is approximately the same as Alternative 1. The magnitude of erosion and compaction impacts could be lower for Alternative 4 than for No Action, over the long term (if future grazing is authorized), and would be higher than Alternative 2. Riparian impacts are the same as No Action.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Vegetation	The mileage of routes in close proximity to sensitive vegetation communities, special status plants, and UPAs in Alternative 1 is slightly higher than in Alternative 2. Grazing impacts would be higher than under Alternative 2, even with measures adopted in the 2006 WEMO Plan, because more forage in sensitive species habitat would potentially be available for livestock grazing. Grazing impacts would not substantially vary between other Alternatives, in the short-term, and would be higher than under other alternatives if future grazing is authorized in vacant allotments under the 2006 WEMO Plan.	The route network under Alternative 2 would have the lowest mileage of motorized routes in close proximity to sensitive vegetation communities, special status plants, and UPAs. It would also have the most protective minimization measures applied to use of those routes, and the most protective goals and objectives to be used in evaluating future routes. Therefore, it would have the lowest magnitude of direct, adverse impacts to vegetation, and the lowest contribution to adverse cumulative impacts. Grazing impacts would be lower under this alternative than other Alternatives because forage in sensitive species habitat would immediately become unavailable for livestock grazing.	The route network under Alternative 3 would have the highest mileage of motorized routes in close proximity to sensitive vegetation communities, special status plants, and UPAs. It would also have the least protective minimization measures applied to use of those routes, and the least protective goals and objectives to be used in evaluating future routes. Therefore, it would have the largest magnitude of direct, adverse impacts to vegetation resources, and the largest contribution to adverse cumulative impacts. Grazing impacts are more than Alternative 2 and the same as No Action in the short term, but may be lower over the longer term.	The mileage of routes in close proximity to sensitive vegetation communities, special status plants, and UPAs in Alternative 4 is approximately the same as in Alternative 1. Grazing impacts are more than Alternative 2 and the same as Alternative 3.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Wildlife	The mileage of routes in close proximity to special status wildlife areas in Alternative 1 is slightly higher than in Alternative 2. Grazing impacts to wildlife are the same as impacts for vegetation; they would be higher under No Action than Alternative 2, and, over the long-term higher under No Action than under Alternative 3 or 4 impacts.	The route network under Alternative 2 would have the lowest mileage of motorized routes in close proximity to identified wildlife areas. It would also have the most protective minimization measures applied to use of those routes, and the most protective goals and objectives to be used in evaluating future routes. Therefore, it would have the lowest magnitude of direct, adverse impacts to wildlife, and the lowest contribution to adverse cumulative impacts. Grazing impacts to wildlife are the same as impacts for vegetation; they would be lower under Alternative 2 than the other alternatives.	The route network under Alternative 3 would have the highest mileage of motorized routes in close proximity to identified wildlife areas. It would also have the least protective minimization measures applied to use of those routes, and the least protective goals and objectives to be used in evaluating future routes. Therefore, it would have the largest magnitude of direct, adverse impacts to wildlife resources, and the largest contribution to adverse cumulative impacts. Grazing impacts to wildlife are the same as impacts for vegetation; Alternative 3 impacts would be lower than under No Action and higher than under Alternative 2.	The mileage of routes in close proximity to special status wildlife areas in Alternative 4 is slightly higher than in Alternative 1 but less than Alternative 3. Grazing impacts to wildlife are the same as impacts for vegetation; Alternative 4 impacts would be lower than under No Action and higher than under Alternative 2.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Socioeconomics	The mileage of routes available to support recreation and authorized users in Alternative 1 is slightly higher than in Alternative 2. Grazing impacts from the No Action alternative have been adverse to specific lessees, particularly in the sheep grazing community. Impacts would not substantially vary between No Action and Alternatives 3 or 4, but would be lower than under Alternative 2.	The route network under Alternative 2 would have the lowest mileage of motorized routes available to support recreation and authorized users of BLM lands. Although access for these users would still be available, this alternative would increase the density of recreational use, possibly having a slight adverse impact on recreation-focused businesses. Access for authorized users would also be maintained, but it would require a greater length of travel for some users, again having a slight adverse impact. Impacts under Alternative 2 are higher than under the other Alternatives because it would result in an additional loss to individual lessees and the local tax base.	The route network under Alternative 3 would have the largest mileage of motorized routes available to support recreation and authorized users of BLM lands. The increase in the mileage of motorized routes would be a beneficial impact to recreation-focused businesses and other authorized users, as compared to the No Action Alternative. Impacts are the same as No Action.	The mileage of routes available to support recreation and authorized users in Alternative 4 is slightly higher than in Alternative 1. Impacts are the same as No Action.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Recreation	The mileage of routes available to support recreation in Alternative 1 is slightly higher than in Alternative 2. There are no substantial grazing impacts under any of the alternatives.	The route network under Alternative 2 would have the lowest mileage of motorized routes available to support recreation. Although access for these users would still be available, this alternative would increase the density of recreational use in areas that remain open, thus having an adverse impact on the recreation experience.	The route network under Alternative 3 would have the largest mileage of motorized routes available to support recreation. The increase in the mileage of motorized routes would allow recreational users to be more dispersed, increasing their recreational experience and serving as a beneficial impact as compared to the No Action Alternative.	The mileage of routes available to support recreation in Alternative 4 is slightly higher than in Alternative 1.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Livestock Grazing	The mileage of routes available to support authorized users in Alternative 1 is slightly higher than in Alternative 2. Livestock grazing would continue on 30 active allotments under the terms and conditions contained in the Final Grazing Decisions for active allotments in the West Mojave Planning Area. Grazing would be evaluated on a case-by-case basis on 13 inactive allotments when new applications are received.	The route network under Alternative 2 would have the lowest mileage of motorized routes available to support the operations of grazing permittees and lessees. Although access for these users would still be available, this alternative may increase the length of routes those operators need to travel to support their operations, thus having an adverse impact on grazing operations. This impact would contribute incrementally to adverse cumulative impacts to grazing due to resource protections and other authorized uses. Livestock grazing would be discontinued on 3 active grazing allotments in portions within DWMAs and CHUs, and would unavailable on 2 inactive, vacant allotments and a small portion of a 3rd inactive, vacant allotment within DMWAs and CHUs within the West Mojave Planning Area.	The route network under Alternative 3 would have the largest mileage of motorized routes available to support the operations of grazing permittees and lessees. By increasing the mileage of motorized routes within grazing allotments, this alternative would have a beneficial impact on the operators of those allotments. Overall impacts to the allotments due to other factors, such as resource protections and other authorized projects, would continue to have an adverse cumulative impact to grazing. Livestock grazing would be unavailable on 7 currently inactive, vacant allotments within the West Mojave Planning Area.	The mileage of routes available to support grazing in Alternative 4 is slightly higher than in Alternative 1. Livestock grazing would be unavailable on 2 currently inactive, vacant grazing allotments and and a small portion of a 3rd inactive, vacant allotment within DMWAs and CHUs, as well as the DWMA and CHU portions of those that become inactive and vacant in the future within the West Mojave Planning Area.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Energy Production, Utility Corridors, and Other Land Uses	The mileage of the existing authorized or permitted routes are the same in all alternatives. There are no substantial grazing impacts under any of the alternatives.	The route network under Alternative 2 would have the lowest mileage of motorized routes available to support access for any new authorized users for energy production, utility corridors, mining, communications sites, and other facilities. Although access for these users would still be available, this alternative may increase the length of routes those users need to travel to support their new operations. This impact would contribute, incrementally, to adverse cumulative impacts to these land uses due to resource protections and other authorized uses.	The route network under Alternative 3 would have the largest mileage of motorized routes available to support access for new authorized users for energy production, utility corridors, mining, communications sites, and other facilities. By increasing the mileage of motorized routes, this alternative would have a beneficial impact on the operators of those new facilities. Overall impacts to these operations due to other factors, such as resource protections, would continue to have an adverse cumulative impact to other land uses.	The mileage of routes available to support authorized users in Alternative 4 is slightly higher than in Alternative 1.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Cultural Resources	The mileage of routes in close proximity to known cultural resources in Alternative 1 is slightly higher than in Alternative 2. Grazing impacts would be the same as Alternatives 3 and 4 and somewhat higher than under Alternative 2 due to the modest potential for additional damage of cultural resources by livestock on the three actively grazed allotments in DWMAs and CHUs.	The route network under Alternative 2 would have the lowest mileage of motorized routes in close proximity to identified cultural resources. It would also have the most protective minimization measures applied to use of those routes, and the most protective goals and objectives to be used in evaluating future routes. Therefore, it would have the lowest magnitude of direct, adverse impacts to cultural resources, and the lowest contribution to cumulative impacts. Grazing impacts would be lower under Alternative 2 than under the No Action and other alternatives because any potential for additional damage of cultural resources by livestock on the three currently grazed allotments in DWMAs and CHUs would be eliminated.	The route network under Alternative 3 would have the highest mileage of motorized routes in close proximity to identified cultural resources. It would also have the least protective minimization measures applied to use of those routes, and the least protective goals and objectives to be used in evaluating future routes. Therefore, it would have the largest magnitude of direct, adverse impacts to cultural resources, and the largest contribution to cumulative impacts. Grazing impacts are the same as the No Action alternative.	The mileage of routes in close proximity to known cultural resources in Alternative 4 is slightly higher than in Alternative 1. Grazing impacts are the same as the No Action alternative.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Visual Resources	The mileage of motorized routes in the most sensitive VRI classes (Class I and II) is slightly higher than in Alternative 2, slightly lower than Alternative 4, but much lower than Alternative 3. There are no substantial grazing impacts under any of the alternatives.	The mileage of motorized routes in the most sensitive VRI classes (Class I and II) is lowest in Alternative 2. Although remaining motorized routes would continue to have an adverse impact on the visual character of the desert, closure of routes would lead to a beneficial impact by allowing routes to revegetate and rehabilitate. The route network under Alternative 2 would have the largest mileage of closed routes, and would therefore have a beneficial impact on visual resources, as compared to the No Action Alternative.	The mileage of motorized routes in the most sensitive VRI classes (Class I and II) is highest in Alternative 3. The route network under Alternative 3 would have the lowest mileage of closed routes, and would therefore have an adverse impact on visual resources, as compared to the No Action Alternative.	The mileage of motorized routes in the most sensitive VRI classes (Class I and II) is slightly higher than in Alternatives 1 and 2, but much lower than Alternative 3.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Special Designations	The mileage of motorized routes in ACECs, DWMA, wilderness, and WSAs is slightly higher than in Alternative 2, slightly lower than Alternative 4, but much lower than Alternative 3. Grazing impacts would be higher than under Alternative 2, even with measures adopted in the 2006 WEMO Plan, because more specially designated areas would potentially be available for livestock grazing. Grazing impacts would not substantially vary between other Alternatives in the short-term, and would be higher under No Action than under the other alternatives, which eliminate the potential for future grazing in additional special areas.	The mileage of motorized routes in ACECs, DWMA, wilderness, and WSAs is lowest in Alternative 2. This alternative would also have the most protective minimization measures applied to use of those routes, and the most protective goals and objectives to be used in evaluating future routes. Therefore, it would have the lowest magnitude of direct, adverse impacts to special designation areas, and the lowest contribution to cumulative impacts. Grazing impacts would be lower under this alternative than other Alternatives because ACECs that are DWMAs and wilderness would immediately become unavailable for livestock grazing or damage.	The mileage of motorized routes in ACECs, DWMA, wilderness, and WSAs is highest in Alternative 3. This alternative would also have the least protective minimization measures applied to use of those routes, and the least protective goals and objectives to be used in evaluating future routes. Therefore, it would have the largest magnitude of direct, adverse impacts to special designation areas, and the largest contribution to cumulative impacts. Grazing impacts are more than Alternative 2 and the same as No Action in the short term, but lower over the longer term.	The mileage of motorized routes in ACECs, DWMA, wilderness, and WSAs is slightly higher than in Alternatives 1 and 2, but much lower than Alternative 3. Grazing impacts are the same as Alternative 3.
Noise	The mileage of routes near sensitive receptors and residences is only slightly more than in Alternative 2, and much less than in Alternative 3. There are no substantial grazing impacts or differences among the alternatives.	The route network under Alternative 2 would have the lowest mileage of motorized routes within close proximity to sensitive human receptors, residences, and wildlife receptors. Therefore, it would have the lowest magnitude of direct, adverse impacts resulting from noise, and the lowest contribution to cumulative impacts.	The route network under Alternative 3 would have the largest mileage of motorized routes within close proximity to sensitive human receptors, residences, and wildlife receptors. Therefore, it would have the largest magnitude of direct, adverse impacts resulting from noise, and the largest contribution to cumulative impacts.	The mileage of routes near sensitive receptors and residences is only approximately the same as in Alternative 1.

Table. ES.1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Travel and Transportation Management	The route network under all alternatives has been designed to ensure connectivity with route networks in adjacent jurisdictions, and to ensure access to public land holdings and authorized users. The No Action Alternative would maintain the current level of connections and access, and would therefore have no impact on travel and transportation management. There are no substantial grazing impacts to the alternatives. There would continue to be limited routes required under No Action and Alternatives 3 and 4 that would no longer be needed under Alternative 2, but they do not substantively affect the overall travel network.	Alternative 2 has been designed to maintain connections with adjacent jurisdictions and ensure access to private land and authorized users. However, by closure of some unauthorized routes to increase resource protections, this alternative may increase the length of routes that some users may travel to access these areas. As a result, this alternative would have a slight adverse, direct impact to travel and transportation management. There are no substantial grazing impacts to the TTM alternatives. Miles of limited routes may eventually be slightly lower under Alternative 2 than the other alternatives if routes are not needed for other purposes.	Alternative 3 would result in the widest network of motorized routes, maximizing connections to adjacent jurisdictions and access to private land and authorized uses. As a result, this alternative would have a direct, beneficial impact to travel and transportation management. There are no substantial grazing impacts to the TTM alternatives.	Like all alternatives, Alternative 4 has been designed to ensure connectivity with route networks in adjacent jurisdictions, and to ensure access to public land holdings and authorized users. However, this alternative has been designed to incorporate specific comments regarding access to specific locations and users. As a result, Alternative 4 would be the most beneficial to travel and transportation management. There are no substantial grazing impacts to the TTM alternatives.

CHAPTER ONE
INTRODUCTION

This Environmental Impact Statement (EIS) supplements the 2006 West Mojave (WEMO) Plan. It considers four alternatives, including a no action alternative, to evaluate the environmental impacts associated with the Bureau of Land Management's (BLM's) West Mojave Route Network Project (WMRNP). The WMRNP includes a land-use plan amendment to the 1980 California Desert Conservation Area Plan, as amended (CDCA Plan, 1999 reprint), and activity-plan strategies to implement the land use plan amendment, in response to the 2006 WEMO Plan litigation and recent transportation and travel management guidance.

Three action alternatives include variations in (1) the land-use plan level decisions in the Motor Vehicle Access Element and Recreation Element of the CDCA Plan that establish the travel management framework for the West Mojave Planning Area, (2) non-land use plan route designations that provide a transportation and travel network and the strategies to implement the network and (3) the land-use plan decisions in the Livestock Grazing Element of the CDCA Plan that establish the locations and levels of livestock grazing in desert tortoise Desert Wildlife Management Areas (DWMAs) within the West Mojave Planning Area. The proposed action has been determined to be a major federal action that requires preparation of an EIS pursuant to the National Environmental Policy Act (NEPA).

The analysis in the Supplemental EIS (SEIS) revisits and updates the 2005 WEMO Final EIS analysis of environmental impacts associated with motor vehicle access including soils, air, cultural, riparian and water-associated Unusual Plant Assemblages (UPAs), and certain biological resources, and environmental impacts associated with the grazing program, including soils and riparian and other water-associated UPAs.

1.1 Overview of the Environmental Impact Statement

1.1.1 Site Location and Description

The West Mojave Planning Area is located to the northeast of the Los Angeles metropolitan area (See Figure 1.1-1). The conservation program established by the 2006 WEMO Plan amendment to the CDCA Plan applies to the BLM-administered public lands in the Planning Area. The WMRNP amendment to the Livestock Grazing, Motorized Vehicle Access, and Recreation Elements of the CDCA Plan, and the route designation process updates that would be incorporated into the CDCA Plan, if approved, would be applicable only to the BLM-administered public lands within the West Mojave Planning Area. The other changes analyzed in this SEIS would likewise apply only to the BLM administered public lands within the West Mojave Planning Area.

The West Mojave Planning Area currently totals 9.4 million acres, of which approximately 3.1 million acres are BLM administered public lands. The 2012-2013 inventories of routes for the West Mojave Planning Area identified approximately 15,000 miles of linear features that constitute the inventory of primitive routes in limited access areas, i.e., outside of Off Highway Vehicle (OHV) Open Areas, on public lands. The development of this inventory and its relationship to the 2006 WEMO Plan inventory are discussed further in Section 1.1.4 and in Chapter 3.

1.1.2 CDCA Plan and WEMO Plan Background

By statute the CDCA Plan area encompasses 25 million acres of land in southern California. The CDCA Plan of 1980 addressed public-land resources and resource uses on 12 million acres of public land within the 25 million acres of land in southern California. The CDCA Plan includes 12 plan elements, including a Motorized-Vehicle Access (MVA) Element that establishes the travel management framework for the CDCA, and also includes some activity-level decisions for popular locations, and a Livestock Grazing Element that established geographic boundaries of livestock allotments, the types of forage use, and the upper limits on the stocking levels in each of the allotments. The other elements in the CDCA Plan include a Recreation Element, a Wild Horse and Burro Element, Cultural Resources and Native American Elements, Wildlife and Vegetation Elements, a Wilderness Element, a Land Tenure Adjustment Element, an Energy Production and Corridors Element, and a Geology, Energy and Mineral Resources Element. Since 1980, numerous amendments have been adopted which have changed the CDCA Plan. The most recent update and reprinting of the CDCA Plan was published in 1999, and all references in this document to the CDCA Plan are referencing the 1999 reprint version, which includes amendments approved as of 2003.

The 2006 WEMO Plan is a federal land use plan amendment to the CDCA Plan that presents (1) a comprehensive strategy to conserve and protect the desert tortoise, the Mohave ground squirrel (MGS) and over 100 other sensitive plants and animals and the natural communities of which they are a part, and (2) a streamlined program for complying with the requirements of the federal and California Endangered Species Acts (FESA and CESA, respectively) (WEMO, 2006 p. ES-1). The 2006 WEMO Plan includes modification of the vehicle management program and livestock grazing program to promote the adopted conservation strategy. The 2006 WEMO Plan designated an OHV route network in applicable areas of the public land within the West Mojave Planning Area of the CDCA. Routes that are part of the route network and are regularly available for vehicular use are designated as Open routes as per the CDCA Plan, MVA Element (CDCA 1999, p.77).

The MVA Element of the CDCA Plan addresses travel management on public lands in southern California with a focus on recreational vehicular use of public lands in southern California and identifies the travel management framework for various public lands. The MVA Element also outlines the route designation process, specifically restricts motorized vehicle routes to those that existed in 1980 (CDCA Plan, 1999, p. 77), and includes goals that, either in practice or through amendment, have been updated since 1980 to implement current policy. The CDCA Plan considers non-motorized travel in the context of the motorized access necessary in order to reach non-motorized areas and activities within the planning area. The Recreation Element of the CDCA Plan also addresses an aspect of access outside of OHV Open Areas—the routes that can be used for, and adoption of specific courses for, competitive vehicle events.

The MVA Element of the CDCA Plan has been amended several times since the 1980 CDCA Plan was published, and many of those amendments have included some or all of the West Mojave Planning Area. The major amendments to the CDCA Plan regarding motorized vehicle access prior to the initiation of the 2006 WEMO Plan route network are summarized in the 1999 reprint of the CDCA Plan. Specific Route designations have been previously published in the Federal Register for various areas within the West Mojave Planning Area between 1985 and 1987, and again in the 2003 West Mojave Desert Off-Road-Vehicle Designation Project and Environmental Assessment. The 2003 West Mojave Desert Off-Road-Vehicle Designation

Project and Environmental Assessment analyzed alternative networks for the Planning Area and selected and approved an interim West Mojave route network pending the completion of the 2006 WEMO Plan. For a complete description of the chronology of route designation in the West Mojave Planning Area, see Section 3.1 and Appendix E of the SEIS.

The 2006 WEMO Plan modifications of the livestock grazing program include, among others:

- Elimination of the majority of ephemeral sheep grazing within sheep grazing allotments located in DWMAs;
- Elimination of ephemeral grazing within cattle and horse grazing allotments when forage is inadequate;
- Elimination of ephemeral grazing and temporary non-renewable grazing authorization within cattle grazing allotments located in DWMAs;
- Measures to remove grazing through temporary closures in cattle grazing allotments in DWMAs when forage is inadequate;
- Measures to allow voluntarily relinquishment of allotments located in DWMAs and other special status species habitat.

In 2006, the BLM approved a comprehensive amendment covering the WEMO area of the CDCA. The 2006 WEMO Plan Amendment approved a total of 12 separate decisions; most were focused on establishment or adjustment of ACECs and changes to multiple use classes.

The specific decisions related to Motorized Vehicle Use and route designations made in the 2006 WEMO ROD, are as follows:

- Decision 5: Recommendations made in the 1994 Rand Mountains-Fremont Valley ACEC Management Plan were adopted, including adoption of the proposed motorized vehicle access network to be managed with an educational permit system.
- Decision 6: The motorized vehicle access network in the Afton Canyon Natural Area ACEC was adopted.
- Decision 8: Regional Public Land Health Standards and Guidelines were adopted, subject to Secretarial approval, which is pending.
- Decision 9: The motorized vehicle access network in the remainder of the planning area was adopted, and included minor modifications of the 2003 route network, a redesign of the Juniper subregion, and route closures in the Lane mountain milkvetch ACEC, Barstow woolly sunflower ACEC, the Mojave monkeyflower ACEC, and the Red Mountain subregion. The approved network also included the opening of a 9-mile undesignated route east of Haiwee Reservoir, and establishment of competitive "C" routes northeast of the Spangler Hills Open Area.
- Decision 10: The Stopping, Parking, and Camping Section of the CDCA Plan Motorized Vehicle Access Element was modified to incorporate restrictions within DWMAs, including limiting camping to previously existing disturbed camping areas adjacent to open routes and limiting stopping, parking, and camping to within 50 feet of the centerline of open routes.

- Decision 11: The portion of the Barstow to Vegas Race Course within the WEMO Planning area was eliminated.
- Decision 12: The Stoddard Valley to Johnson Valley Competitive Event (racing) Corridor was eliminated and replaced with a Connector Route to provide a motorized access link between the two OHV Open Areas.

The Record of Decision (ROD) for the 2006 WEMO Plan approved the designation of approximately 5,098 miles of motorized vehicle routes. Following a successful judicial challenge in a lawsuit filed in 2006, the 2006 WEMO route network and associated travel management decisions were remanded to BLM for reconsideration.

1.1.3 Court Actions

Shortly after the completion of the 2006 WEMO Plan, a lawsuit was filed challenging the route designation process and other procedural aspects of the 2006 WEMO Plan (*Center for Biological Diversity, et al. v. BLM, et al.*, 3:06-CV-04884 SI (N.D.Cal.)). The United States District Court for the Northern District of California (the Court) issued a Summary Judgment Order on September 28, 2009 finding that BLM's travel management plan was legally inadequate, and a Remedy Order on January 28, 2011 setting forth the means by which BLM was to resolve the legal infirmities identified by the court.

The Remedy Order partially vacated the 2006 WEMO ROD, citing the potential for unpredictable or irreversible environmental consequences if the full ROD were subject to complete vacatur. The court determined that (1) the "decision tree" used to evaluate and designate routes was flawed because it did not comply with regulations requiring BLM to protect resources, promote public safety, and minimize conflict, and consider various "designation criteria" (Summary Judgment Order, September 28, 2009, p.4 lines 18-19), found in 43 CFR 8342.1, when designating routes, (2) the plan authorized numerous OHV routes that were not in existence in 1980, which was inconsistent with the governing land use plan which limits OHV routes to those existing in 1980, (3) the EIS did not contain a reasonable range of alternatives to the proposed action because all alternatives considered the same 5,098 mile OHV route network and because its discussion of the No Action alternative was incomplete, and (4) the EIS was flawed because its analysis of impacts on soils, cultural resources, certain biological resources, and air quality was incomplete (Remedy Order, January 28, 2011, p.2). These issues are discussed in more detail in Sections 1.4 and 1.9 of this document.

The Court directed BLM to reconsider the route designation process and network under the Federal Land Policy and Management Act of 1976 (FLPMA) and issue a revised decision that complies with FLPMA and BLM's regulations that establish "designation criteria" for OHV routes, in 43 CFR 8342.1. BLM was also directed to prepare a supplemental NEPA document that reconsiders the "No Action" alternative and considers a broader range of alternatives, including at least one alternative that analyzes a less extensive network for the West Mojave Planning Area (Remedy Order, January 28, 2011, p.4, lines 2 thru 4). Further, the Court directed the BLM to conduct additional analysis of those environmental impacts from the route network and grazing program for which the court found a failure to comply in its September 28, 2009 Summary Judgment Order (Remedy Order, January 28, 2011, p.3-4).

Accordingly, BLM has determined that development of the current SEIS, tiered from the 2005 WEMO Final EIS, is appropriate. This SEIS has been developed to inform BLM's evaluation of a plan amendment proposal and alternatives for its grazing program and transportation and travel management program, and associated non-land use plan transportation and travel management implementation strategy and route network alternatives, within the West Mojave Planning Area, to address deficiencies identified by the Court, and to serve as BLM's NEPA compliance document.

1.1.4 Route Inventory for the WMRNP

The court also requested BLM to further clarify its baseline and No Action alternative, and to be consistent throughout the document. In 2012, the BLM began two efforts that would provide a comprehensive baseline of routes for the West Mojave Planning Area. An intensive open-route signing project and subsequent monitoring project was conducted in the field using GPS handheld equipment that could directionally track routes as they were being driven and assure map accuracy. At the same time, high quality aerial photography from 2009 was being reviewed by GIS personnel at 1:2000 resolution and was used to provide a digital record (created in 2013) of all the open routes and any unauthorized routes. The result of these two concurrent inventories is a baseline of all primitive routes (ground transportation linear features—see glossary) in the planning area of approximately 15,000 miles.

This is approximately 7,000 miles more than the WEMO Plan inventory which was based on the data collected in 2001 (and analyzed in 2005) for the 2006 WEMO Plan, and is discussed further in Chapter 2 and Appendix E. Based on a sample review of the aerial 2005 data and the current aerial (2013) data, the additional miles of primitive routes in the inventory has not changed since 2005. BLM's sample review of the recent and earlier route inventories indicates that these additional routes are not the result of an expansion of the baseline since the 2006 WEMO Plan ROD. BLM has identified several reasons why the current inventory is more extensive than the inventory reflected in the 2006 WEMO Plan.

It was clear early on during the 2013 inventory efforts that the data BLM was collecting (both in the field and using the aerial photography) did not match up to data from the 2006 WEMO Plan. This was the case where the extensive 2001 inventories had taken place-in the redesign areas known as Motorized Access Zones (MAZs), and more so in the approximately 50 percent of the planning area not inventoried in 2001, which instead relied on previous inventory data (2005 WEMO Final EIS, p. 2-143-145).

Routes from the 2006 WEMO Plan were inaccurate due to mapping errors based on source data, magnetic alignment or tracing errors. Other routes were "in the wrong place", possibly the result of the equipment used in 2001, resulting in signs not matching up with the maps that indicated where the approved plan said a route should be.

The 2013 baseline inventory is incorporating many access roads to private lands and rights-of-way for which data is now available. These routes may not be intended for public use in many cases. They can include spur routes off of main routes that were often not included in the 2001 inventory particularly spur routes to private lands and to telephone poles or other right-of-way facilities that that may or may not have been issued an official authorization for such use. Use that is specifically authorized for use can be the source of route proliferation if not appropriately designated and managed. Much more minerals and lands data has now been documented in

electronic rather than just hardcopy case files, and although still somewhat tedious to utilize, provides good information on the permitted routes.

Some routes not identified in the 2006 WEMO Planning inventory showed signs of partial reclamation, with only very light, intermittent use or as a result of implementation of the 2006 WEMO Plan. These routes have been included in the baseline inventory to clarify their designation, and will remain there until evidence of their use is substantially eliminated.

Previously undocumented routes that were identified in the 2013 inventories include routes in areas with source data that was older than 2001. Many areas had not been revisited comprehensively since the 30-year old inventories that had been conducted for the 1985-1987 planning effort. Some areas had "gaps", e.g., places where route inventories were never collected and documented, or which relied exclusively on the 1:24,000 or 1:50,000 USGS topographic maps (flown circa 1950 – 1980).

Large land acquisition and disposal efforts occurred after the 1985-87 inventory, resulting in over 165,000 additional public land acres outside of wilderness or OHV open areas. At the time of acquisition, route inventories were not taken.

The current inventory includes the entire 15,000 miles of primitive routes, because it reflects the baseline condition and use patterns on the ground. Most of the primitive routes in the current inventory are not in the current designated motorized network as approved in the 2006 WEMO Plan and, as a result, if currently still in use they are primarily an indication of unauthorized use. This is the case even if routes were publicly available for use as "existing routes" prior to the 2006 WEMO Plan ROD.

A relatively small number are permitted routes that were not included in the original 2006 WEMO inventory and analysis, and are currently being utilized by permittees. These have been added to the network as authorized/administrative routes, consistent with the 2006 WEMO Plan implementation direction. Previously designated non-motorized or non-mechanized routes were not addressed in the 2006 travel network, but comprise a minimal number of miles, as identified in the Chapter 4 impacts analysis. The entire 15,000 miles forms the baseline of routes from which alternatives were designed, The preliminary No Action route network, (5,098 miles), was adjusted for court decisions and major valid existing rights (authorized/administrative routes) to 5,338 miles, which forms the basis for the comparison of impacts between alternatives.

1.2 Purpose and Need

The purpose and need of the West Mojave Route Network Project (WMRNP) is to provide a framework for transportation management, and specific travel management implementation strategies in Limited Access Areas of the West Mojave Planning Area. This framework and these strategies would (1) limit conflicts and threats to sensitive resources, (2) respond to current and anticipated future transportation and travel needs, (3) provide appropriate recreational access, and (4) be consistent with the overall motor vehicle access goal of the 2006 WEMO Plan. The MVA goal of the 2006 WEMO Plan is to provide appropriate motorized vehicle access to public lands for commercial, recreational, and other purposes in a manner that is compatible with species conservation. In addition, two additional livestock grazing alternatives in addition to those analyzed in the 2006 WEMO Plan are under consideration, one that would make all allotments in DWMA and other critical habitat permanently unavailable for livestock grazing, and the other that would make allotments in DWMA and other critical habitat permanently unavailable for livestock grazing

as they become vacant. The Supplemental Environmental Impact Statement (SEIS) will also analyze access and grazing impacts on specific resources in response to the Court's statements of inadequacy, as summarized in the Court Remedy Order (January 28, 2011, p.3-4) and further discussed in Section 1.1.3.

Since the development of the 2006 WEMO route network, new BLM policies, including BLM Manual 1626 - Travel and Transportation Management and BLM Handbook H-8342, the BLM National Travel and Transportation Handbook, and other new transportation management and related circumstances, including wilderness and OHV boundary modification legislation, new information on routes, route impacts, and route uses, the need to clarify untenable and inconsistent parameters on route designation and transportation management within WEMO, and the litigation on the 2006 WEMO Plan Amendment, have occurred.

By regulation, a land use plan may be amended to consider new findings, data, new or revised policy, changes in circumstances or to address a proposed action that may result in a change in the scope of resource use or a change in the terms, conditions, and decisions of the approved plan (43 CFR 1610.5-5). The WMRNP needs to provide managers with a consistent way of implementing the CDCA Plan transportation management strategy that is adopted for the WEMO area, to achieve national and WEMO goals moving forward.

Plan Amendment Decisions

The 2012 Travel Management guidance (H-8342) makes clear distinctions between the land-use planning decisions to adopt a travel management framework, and decisions to implement the travel management planning framework, including the designation of specific routes. The CDCA Plan had already made some of these transportation and travel management decisions in designating all public lands within the CDCA into categories which define whether and how motorized access is allowed. All areas within the CDCA are designated as open, closed, or limited for motorized access, including all lands within the West Mojave Planning Area. The CDCA Plan amendment being considered for the West Mojave Planning Area in this SEIS only applies to those areas that are categorized as limited motorized access. Each CDCA plan amendment decision follows:

1) Replace or modify the following CDCA Plan language in the MVA Element: "at the minimum, use will be restricted to existing routes of travel."

This language was not specifically updated in the 2006 West Mojave Plan. In the Summary Judgment Order, the Court stated that BLM has the authority to amend the Plan to lift this restriction, as long as those amendments satisfy NEPA, FLPMA, and all other applicable statutes and regulations. BLM has determined that a restriction of motorized routes to those that existed in 1980 does not comply with requirements of the following policy and regulations applicable to transportation planning:

- BLM regulations in 43 CFR 8342.1, which requires designation of public lands as open, limited, or closed based on protection of resources of the public lands, safety of all users, and minimization of conflicts among the various uses of the public lands, and in accordance with the designation criteria provided in the regulation;

- BLM Handbook 1610-1, Appendix C, Comprehensive Trails and Travel Management, which requires delineation of travel management areas and designation of Off-Highway Vehicle Management Areas as open, limited, or closed; and
- BLM Handbook 8342, Travel and Transportation Management Handbook, which describes how BLM is to comprehensively manage travel and transportation on public land.

In order to modify the CDCA Plan to comply with the regulations and policies cited above in the West Mojave Planning Area, BLM has identified a need to replace the existing CDCA Plan language.

2) Develop a strategy and adopt a route designation process within the West Mojave Planning Area that addresses the regulatory requirements and court identified FLPMA and NEPA inadequacies.

The route designation process to be adopted would consider and document its consideration of the route designation criteria in 43 CFR 8342.1 and other applicable laws, regulations, and policies. The route designation process would include strategies to minimize impacts consistent with regulations that are applied at the outset of the process. By BLM policy, the process for designating travel routes is currently found in Bureau guidance issued in 2005 and subsequent releases, including the 2012 handbook, as identified above. These guidance documents were released too late to be incorporated into the 2006 West Mojave Plan but have been considered in this planning effort. A broader range of alternatives would be considered, including at least one alternative that analyzes a less extensive route network for the West Mojave Planning Area than the No Action alternative. The route designations would exclude areas newly closed as a result of wilderness legislation, would provide mechanisms for future route designations as lands are acquired by BLM, and would provide mechanisms to redesignate routes as available for use or as closed, as deemed necessary and as consistent with regulations, plans, and NEPA requirements.

3) Clarify the Motorized Vehicle Access (MVA) Element of the CDCA Plan as it relates to the West Mojave Planning Area to clearly reflect current policy on resource management planning and implementation decisions, and to reconsider broad planning-level access decisions.

Consistent with the 2005 and 2012 travel management guidance referenced above, the proposed plan amendment would provide the framework for a comprehensive transportation and travel network on public lands in the West Mojave Planning Area, including consideration of both public and other (e.g., commercial) access needs and opportunities on public lands as part of the comprehensive transportation and travel network, recognizing the changing nature of access needs, and the relevance of non-motorized and non-mechanized as well as motorized travel on public lands.

As one element of the proposed changes, planning-level access parameters of the MVA element that may further minimize impacts from the network are under consideration, including lakebed designations and measures for stopping, parking, and camping areas adjacent to designated routes. Recreation Element access parameters that may further minimize impacts from the network are also under reconsideration, including the designation of competitive event corridors and guidelines for permitting competitive events. Boundary modifications to open, closed and limited areas are being recognized considered only insofar as legislative changes have occurred

since the release of the 2006 West Mojave Plan. No other boundary changes to open, closed, or limited access areas are proposed in this Supplemental EIS.

4) Identify geographical units within the West Mojave Planning Area as Travel Management Areas (TMAs) within which BLM will issue activity-level decisions to implement adopted travel management strategies.

The new Travel Management guidance recommends adoption of smaller geographical units--Travel Management Areas (TMAs) based on commonalities, such as geography, patterns of use, common transportation issues, ease of management, and resource values. TMA objectives may also be adopted in the land use plan to facilitate the implementation of proposed travel management strategies. This WEMO Travel Management Route Network plan amendment adopts initial travel management objectives for each TMA.

5) Reconsider plan-level grazing decisions for allotments within DWMAs.

The BLM grazing program was analyzed in the 2006 WEMO Plan, and the decisions from the planning effort led to grazing that was substantially curtailed in desert tortoise DWMAs, with additional measures included for the allotments that are still available or potentially available for grazing. In addition, a mechanism for voluntary relinquishment of active leases was adopted in the WEMO Plan. In addition to these measures, the strategy of eliminating livestock grazing from desert tortoise recovery areas was recommended in the 1994 Recovery Plan. Although no longer specifically recommended in the 2011 Revised Recovery Plan, elimination of livestock grazing is consistent with the recovery plan recommendation of "continuing to minimize impacts to tortoises from livestock grazing within tortoise recovery areas" (*Revised Recovery Plan for the Mojave Population of the Desert Tortoise,* May 6, 2011, Section 2.16, p. 78). Therefore, BLM is considering whether to further modify the BLM grazing program in the WEMO Planning area by reducing or completely eliminating grazing in DWMAs.

BLM implementation of the proposed amendment of the CDCA Plan would require approval by the BLM's California State Director through a Record of Decision (ROD). This approval process would include the amendment of the CDCA Plan to adopt the provisions of the 2006 West Mojave Plan that were left in place, except as modified herein. Upon approval of the ROD, BLM will adopt any necessary CDCA Plan amendment. The decisions that would be necessary to implement each alternative are listed in Chapter 2.

Relationship to Implementation Decisions

Plan-level decisions include the adoption of an overall travel management strategy and the designation of TMAs that identify the geographic extent of each implementation area. The particular implementation strategies for minimizing impacts from the network, managing, monitoring, mitigating, and eliminating routes in a route network are not plan-level decisions. Some activity-level implementation decisions are also area-wide, including general approaches and priorities for monitoring, mitigation, and law enforcement, which may quickly change as on-the-ground circumstances change. Other activity-level implementation decisions are location or route-specific, including route designations, route-specific minimization strategies, and specific area outreach strategies. Activity-level implementation decisions may be made concurrent with or subsequent to plan-level travel management strategies.

Concurrent activity-level travel management implementation plans are being developed for the West Mojave Planning Area. The activity-level travel management plans will be finalized after consideration of public input on the Draft SEIS travel management framework, on the route network alternatives and other draft implementation strategies, environmental effects, and proposed strategies to mitigate impacts. Based on the input by the public and others on the Draft SEIS and alternatives, a proposed activity-level management plan will be developed for each proposed TMAs from the draft SEIS alternatives. The proposed implementation plans will be circulated with the Final SEIS.

Future changes to the implementation plans, refinement of TMA boundaries, and additional implementation plan objectives may be considered based on changing needs and issues, subsequent activity-plan monitoring, and implementation focus within the TMA, consistent with the parameters adopted in the WMRNP plan amendment and in each specific implementation plan.

1.3 NEPA Process

1.3.1 Notice of Intent

The planning process was initiated by a Notice of Intent (NOI) to prepare a Supplemental Environmental Impact Statement and Proposed Plan Amendment to the 2006 WEMO Plan that was published in the Federal Register on September 13, 2011, and clarified on May 2, 2013 to indicate the planning-level vs non-planning level decisions, and to clarify that the plan amendment would be an EIS-level amendment.

The clarified NOI served as notification of the intent to prepare an EIS as required in 40 CFR 1501.7, as well as of potential amendment to the CDCA Plan, and requested comments on relevant issues, National Historic Preservation Act (NHPA) (16 U.S.C. 470(f)) concerns, and initial planning criteria for the plan amendment. The NOI indicated that the Proposed Plan Amendment and SEIS would consider the following:

- Amend the Motorized-Vehicle Access (MVA) Element of the CDCA Plan to modify the language regarding the process for designating routes in the West Mojave Planning Area;
- Reconsider other MVA Element land-use-planning level guidance and minimization strategies for the West Mojave Planning Area;
- Revisit the route designation process for the West Mojave Planning Area;
- Clarify the West Mojave Planning Area baseline for route designation and analysis;
- Establish a route network in the Planning Area consistent with current guidance and new information;
- Adopt travel management areas (TMAs) to facilitate implementation of the West Mojave route network;
- Provide or modify network-wide and TMA-specific activity-plan level minimization, mitigation, and other implementation strategies for the West Mojave Planning Area; and
- Respond to specific issues related to the US District Court WEMO Summary Judgment and Remedy Orders.

1.3.2 EIS Scoping

Following publication of the original NOI, BLM held two overview public scoping meetings on September 27 and 29, 2011, in Ridgecrest and Barstow, California. These were followed by eight public travel designation workshops held in January and February, 2012. The travel designation workshops were each focused on a single Travel Management Area, a BLM-defined sub-area of the 2006 WEMO Plan area. Appendix A presents a summary of the scoping comments. The issues to be addressed and the areas of controversy surrounding the proposed plan amendment were similar to those identified for the 2006 WEMO Plan Amendment. In the Scoping Report for the 2011 and 2012 meetings, BLM categorized the public comments as follows:

- NEPA process, and requests for maximizing public involvement in the process;
- Effects of the proposed action on livestock grazing;
- Type of route designation process to be used;
- Criterion A of 43 CFR 8342.1 (minimizing damage to air, soil, watershed, vegetation, or other resources of the public lands, and to prevent impairment of wilderness sustainability);
- Criterion B of 43 CFR 8342.1 (minimizing harassment of wildlife or significant disruption of wildlife habitats);
- Criterion C of 43 CFR 8342.1 (minimizing conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands);
- Criterion D of 43 CFR 8342.1 (prohibiting trails in officially designated wilderness areas or primitive areas);
- Definition of the purpose and need for the route network;
- The range of alternatives to be considered;
- The source of data for the route inventory being evaluated;
- Specific resource impacts, including air quality; biological resources; climate change; and cumulative impacts associated with alternative energy projects, expansion of military bases, and other planning efforts;
- Mitigation and minimization measures to be considered;
- Implementation and administrative actions including route signage, trail monitoring, enforcement, public education, trail enhancements, and other administrative actions;
- Area and route-specific comments organized by the Travel Management Areas initially identified.

Three additional public workshops were held in January 2014, in Barstow, Bishop, and Ridgecrest, which targeted tribal communities. The great majority of the scoping issues and comments were related to specific route designations in the Planning Area. One exception was the comment by many users to address the routes in the Ridgecrest and El Paso Subregions through a separate route designation process. Many commenters also provided input on the network baseline (inventory), the needs that the network serves, and the route designation

process. Primary NEPA considerations focused on cumulative effects to resource values, particularly soils and sensitive species, cumulative effects of grazing, and to potential cumulative loss of recreational access opportunities. Primary user considerations focused on maintaining diverse recreational opportunities, providing access for specific users, including rock-hounders, motorcyclists, scientific and educational activities, and non-motorized users, dealing with conflicts between users, and maintaining commercial access needs. A more complete list of issues can be found in Appendix A of this DSEIS, the Scoping Report.

1.3.3 Desert Advisory Council Subgroup

The Desert Advisory Council (DAC) is a citizen-based Resource Advisory Council that provides recommendations on the management of public lands in the BLM's California Desert District. The DAC operates under a Charter established under Section 309 and Section 601 (g)(1) of the FLPMA, as amended (43 U.S. Code 1739); and all other provisions of the law. In December 2011, in response to the WEMO Project, the DAC established the WEMO Route Network Project Subgroup (WRNPS), which provides input regarding route-specific and network issues pertinent to the WEMO planning area for BLM to consider. The WRNPS is composed of members representing industry, recreation, conservation and the public at large and holds regularly scheduled meetings that are open to the public. The mission of the WRNPS is to prepare a report identifying and providing supporting documentation for a range of alternatives for the eight TMAs in the planning area.

1.4 Planning Issues

The planning issues addressed in this SEIS have been developed from a variety of sources, including the original 2006 WEMO Plan, the issues identified by the Court in remanding the 2006 Plan to BLM for re-evaluation, transportation and travel management guidance issues, issues identified by other agencies and the public during EIS scoping, and other issues identified by BLM staff since 2006.

In the Summary Judgment and Remedy Orders issued by the Court, specific issues were identified by the Court, and which required consideration by BLM in amending the CDCA Plan and conducting its analysis of impacts. In the Summary Judgment Order, the Court determined that:

(1) the "decision tree" that the Bureau of Land Management ("BLM") used to designate Off Highway Vehicle ("OHV") routes was flawed because it did not comply with regulations mandating that the BLM consider various "designation criteria" when designating OHV routes;

(2) because the Plan authorizes numerous OHV routes that were not in existence in 1980, the Plan is inconsistent with the governing land use plan which limits OHV routes to those existing in 1980;

(3) the Environmental Impact Statement was flawed because it did not contain a reasonable range of alternatives to the proposed action because all alternatives considered the same 5,098 mile OHV network, and because its discussion of the "no action" alternative was incomplete; and

(4) the EIS was flawed in that its analysis of route designation and/or grazing impacts on cultural resources, certain biological resources, and air quality, is incomplete. However, the court upheld the grazing program because it was more protective than the CDCA Plan itself.

The Court found that a remand of the 2006 WEMO ROD to the BLM was warranted. During the Remedy Phase of the litigation, the Court ordered the BLM to:

(1) prepare a revised OHV route network that complies with the "designation criteria,"

(2) either return to the 1980 OHV network or amend the CDCA Plan to lift the restriction on post-1980 routes, and

(3) conduct supplemental NEPA analysis.

(4) Revisit the grazing decisions within six months of the new ROD.

The court issues provide an overall planning framework for other planning issues in the West Mojave Route Network Project, including:

- Consistency with other agency planning goals and transportation networks,
- TMA adoption to facilitate implementation of adopted strategies,
- Consistency with the 2006 WEMO goal to provide appropriate motorized vehicle access to public lands for commercial, recreational and other purposes in a manner that is compatible with species conservation.
- Compatibility with agency goals for and interagency consultations in consideration of sensitive resource values,
- Consideration of CDCA Plan and transportation and travel management issues and needs, including those identified in scoping and those not addressed in the 2006 WEMO Plan,
- Consideration of changes to CDCA Plan Limited Area site-specific designations to respond to planning issues,
- Consideration of changes to CDCA Plan Limited Area regional parameters, such as for Stopping, Parking and Camping in the WEMO Planning Area to respond to planning issues or to facilitate broader minimization strategies,
- Consideration of implementation strategies that allow new issues as well as new transportation and travel management needs to be addressed as needed, and
- Clearly documented analysis and decision-making.

1.5 Planning Criteria

Planning criteria are the rules and other factors used to inform decisions about data collection, analysis, and decision-making during planning. Planning criteria includes all applicable federal laws, regulations, executive orders, policies, and applicable portions of land use plans which agencies are required to follow. Policies include those in the Land Use Planning Handbook, H–1601–1 and Manual Section 1626, Travel and Transportation Management, and Handbook 8342, Transportation and Travel Management. The West Mojave planning area is entirely within the

California Desert Conservation Area; some of the planning criteria are specific to the WMRNP planning effort. These planning criteria are listed below.

- Cooperate with local, State and federal agencies with jurisdictions on public lands and adjacent routes on the development of data, analyses and decisions for transportation management to promote network compatibility and cohesiveness.
- Cooperate with local, State and federal land management and regulating agencies, the California Desert Advisory Council, major land owners, conservation and interest groups in and adjacent to the public lands to develop and refine data, issues, and analyses in support of viable and acceptable travel management decisions consistent with other West Mojave goals and objectives.
- Provide for ongoing consultation with American Indian Tribes and develop strategies for protecting recognized traditional uses, e.g., gathering of traditionally used plant materials.
- Include public participation and collaboration throughout and as an integral part of the planning process.
- Inventory all routes of travel in the planning area, including washes that are being used as routes of travel as thoroughly and accurately as possible, and document the inventory to facilitate future update and modification.
- Identify a network that meets user needs, conservation goals, statutory and regulatory requirements, and BLM policy.
- Utilize and document the use of 43 CFR 8342.1 to 1) provide for the protection of public land resources, 2) promote the safety of all users, 3) minimize conflict among various uses, and 4) apply the regulatory criteria in designation of all public lands in the West Mojave planning area as open, limited, or closed to OHVs.
- Incorporate, where applicable and appropriate, management decisions brought forward from existing planning documents.
- Incorporate new information in the designation of routes, including resources data and wilderness designations, and the evaluation of impacts from grazing and the route network.
- Provide rationale for both opening and closing routes and a mechanism to change route designations should the rationale no longer be applicable, based on monitoring of use.
- Provide mechanisms to implement the route network that can be adjusted based on changes in the on-the-ground conditions.
- Identify the need and opportunity to cooperate with and apply strategies across jurisdictional boundaries through memoranda of understanding, interagency agreements and other mechanisms for better network cohesion and compliance, and to increase network utility across jurisdictions.
- To the extent consistent with public land laws, coordinate the WMRNP and management activities with the land use planning and management programs of adjacent local and State governments, Federal Departments and agencies, and local American Indian Tribes, by considering the policies of their resource management programs.

- Make the Plan consistent with State and local plans where practicable and as long as they are consistent with Federal law and the purposes of FLPMA.
- Ensure that Geographic Information System (GIS) and metadata information will meet Federal Geographic Data Committee standards, as required by Executive Order 12906. Follow all other applicable BLM data standards.

1.6 Relationship to Other Statutes, Regulations, and Policies

1.6.1 Federal

1.6.1.1 Other BLM Programs

The WEMO Planning area is currently included within the geographic scope of another ongoing BLM planning effort known as the Desert Renewable Energy Conservation Plan (DRECP) which was developed to address current and future renewable energy land use allocations and associated conservation strategies. The DRECP is addressing the suitability of lands within the CDCA for renewable energy development, associated resource protection impacts, and mitigation strategies. As a result, DRECP is anticipated to affect resource uses other than renewable energy development, including travel management access needs and opportunities, and grazing. The West Mojave SEIS will incorporate affected environment data from the draft DRECP as appropriate, and will consider the effects of the actions proposed to be taken under DRECP on travel management in the WEMO Planning Area to the extent they are reasonably foreseeable, given the parallel timing of the DRECP Plan. As both plans are developed, BLM is reviewing WEMO decisions and DRECP decisions for consistency, or to point out and explain any inconsistencies. The WMRNP will be reviewed again prior to release of the Final SEIS and Proposed Plan for potential correlations to and conflicts with DRECP.

The programs and management of the two other CDCA Plan Motor Vehicle Access designations are relevant to BLM's travel management program—Closed and Open areas. Closed areas include those areas closed under the CDCA Plan, 1999 reprint (p. 76) as well as legislatively designated wilderness, and cover 17 percent of the planning area. In Closed areas, no vehicle travel is allowed and access is limited to non-mechanized travel. Wilderness management and other closed area activities include signage, kiosks, fencing and step-over gates to manage the boundary ingress/egress points, and thereby prevent mechanized travel into the designated wilderness. Therefore, these access points are important considerations when designating the limited access route network.

There are eight Open areas designated as OHV Areas that have been designated in the CDCA Plan that are located within the WEMO Planning area, covering 7.8 percent of the planning area. In Open areas, vehicle travel is not restricted to routes, except as specifically closed or otherwise marked, such as within fenced ACEC or abandoned mine features. OHV Areas may have one or two main improved or well-maintained routes that provide primary access to the area. The OHV Areas also have staging areas that were designated in the OHV Open Area Plan or have been established by a long history of use. These staging areas are intensive-use areas, and may include surrounding OHV Area lands, particularly in adjacent hillsides. As vehicles move farther away from staging areas most users stay on well-established paths. These well-established paths lead to key ingress/egress points to the OHV areas from surrounding Limited Access lands, and link to the designated route network or a boundary road. Signage, kiosks, and

selective fencing are utilized to manage the boundary ingress/egress points, and thereby prevent off-route travel outside of the OHV areas. The locations of these pathways are important considerations when designating the limited access route network adjacent to OHV Open Areas.

The current grazing program in the West Mojave Planning Area is managed consistent with allotment-specific Environmental Assessments (EAs) prepared between 2007 and 2013 for the renewal of active grazing permits and leases. These EAs contain resource- and geographic-specific analysis by allotment for the current grazing program in the planning area.

1.6.1.2 U.S. Fish and Wildlife Service

BLM's decisions as part of this planning effort will be consistent with the Biological Opinion (BO) previously developed for the 2006 WEMO Plan, except as specifically identified in a revised BO. The revised BO will incorporate effects to federally endangered or threatened species not previously considered or which may have changed since 2006, as well as any changes based on a proposed route network different from that proposed and adopted in 2006. A summary of the discussions of travel management and the route networks in the previous BOs is included below. A revised BO will be developed through re-initiation of formal consultation with the U.S. Fish and Wildlife Service (USFWS) in relation to this SEIS.

January 9, 2006 BO

The BO developed to evaluate the effects of the proposed 2006 WEMO Plan considered the effects of each of the 12 separate CDCA Plan Amendment decisions made in the 2006 ROD. Effects were considered on four species (desert tortoise, Parish's daisy, Cushenbury milk-vetch, and Lane Mountain milk-vetch), and three types of critical habitat (desert tortoise, Parish's daisy, and Cushenbury milk-vetch). The USFWS considered the effects of each of the 12 CDCA Plan Amendment decisions proposed by BLM, including those that focused on travel management issues.

The manner in which the USFWS addressed the travel-related and grazing issues, decisions, and other strategies is summarized below.

- The USFWS evaluated the potential effects of the Rand Mountains-Fremont Valley Management Plan on the desert tortoise and its critical habitat. The BO concluded that the plan may benefit the tortoise, and may promote the conservation role and function of designated critical habitat. This conclusion was due to the reduction in the extent of the route network in this area.
- The USFWS evaluated the expansion of the boundaries of the Afton Canyon ACEC, and the adoption of the route network in the Afton Canyon Natural Area. The USFWS concluded that the effect of these actions on the desert tortoise would be beneficial.
- The USFWS evaluated the potential effects of the proposed route network on the desert tortoise and its critical habitat. The BO specified that the USFWS did not have any definitive information on the size of a route network that would have minimal effects on the tortoise, but concluded that the proposed network should have a net benefit to the tortoise by implementing route closures. The BO also evaluated the effect of the proposed network on the Lane Mountain milk-vetch, and concluded that the reduction in the route network would diminish effects of unauthorized motor vehicle use on the Lane Mountain

milk-vetch. The BO concluded that the route network would not affect the Cushenbury milk-vetch or Parish's daisy, and therefore the 2006 BO did not re-consider effects on these species.

- The USFWS evaluated the potential effects of the proposed stopping, parking, and camping restrictions on the desert tortoise and its critical habitat. The BO concluded that the stopping, parking, and camping measures would reduce impacts to tortoise and critical habitat in DWMAs, and would not increase impacts in areas outside of DWMAs, and therefore would not adversely affect tortoise or its critical habitat. The BO also evaluated the effect of the stopping, parking, and camping measures on the Lane Mountain milk-vetch, and concluded that the limitations on the distance of stopping, parking, and camping from the routes would reduce potential damage to the species from that currently existing. The BO discussed that the 2003 BO had concluded that the stopping, parking, and camping measures would not affect the Cushenbury milk-vetch or Parish's daisy, and therefore the 2006 BO did not re-consider effects on these species.
- The BO concluded that because the regional standards of public land health and guidelines for grazing management are designed to ensure the maintenance of high quality habitat or to improve the condition of habitat that is not functioning properly, their implementation is not likely to adversely affect the desert tortoise or its critical habitat.
- The USFWS evaluated the potential effects of the proposed grazing program and concluded that the grazing program proposed by the Bureau is not likely to appreciably affect the reproduction, numbers, or distribution of the desert tortoise or compromise the conservation role and function of critical habitat of the desert tortoise.
- The BO concluded that the closure of the Barstow to Vegas Race Course would benefit the desert tortoise and its critical habitat.
- The BO concluded that the elimination of the Stoddard Valley to Johnson Valley Race Corridor would benefit the desert tortoise and its critical habitat.

The 2006 BO concluded with an incidental take statement. That statement superseded the previous incidental take statements issued by USFWS for livestock grazing, for the 1993 Rand Mountains-Fremont Valley Management Plan and the 2003 West Mojave Desert Off-Road-Vehicle Designation Project route designations. For the desert tortoise, the BO concluded that the number of desert tortoises that would be killed or injured as a result of BLM's actions could not be quantified because of the large size of the action area, the patchy distribution of tortoises, and the unpredictability of when the activities could cause injury or mortality. However, the BO estimated that relatively few desert tortoises would be injured or killed by BLM's action. The statement also listed mandatory terms and conditions to be followed, and made recommendations for additional conservation measures.

November 30, 2007 BO

An amendment to the 2006 BO dated November 30, 2007, was comprised of a revised desert tortoise incidental take statement that replaced the incidental take statement of 2006. The 2007 amendment included a quantitative estimate of the numbers of tortoises that could be killed or injured as a result of BLM's 2006 WEMO Plan decisions, including take as a result of livestock

grazing, casual use and motorized vehicle use. The BO concluded that the estimated take was not likely to jeopardize the continued existence of the species. Other aspects of the January 9, 2006 BO were not changed.

June 8, 2007 BO

An amendment to the 2006 BO dated November 30, 2007, and Re-initiation of Formal Consultation Regarding the Proposed Grazing Lease Renewal for the Valley Well Allotment. This 2007 amendment included the Valley Well Allotment as part of the Incidental Take Statement and livestock grazing must adhere to the terms and conditions contained in the 2006 BO for the 2006 WMP.

May 6, 2011 Desert Tortoise Recovery Plan

This recovery plan superseded the original 1994 Desert Tortoise Recovery Plan. The plan contains 16 recovery actions that include restricting, designating. closing, and fencing roads and routes. In addition, restricting OHV events within tortoise habitat, and minimizing impacts to tortoises from livestock grazing.

1.6.2 Relationship to Adjacent and Overlapping Jurisdictions

The WEMO area and its surrounding areas are subject to a variety of federal, state, and local planning efforts that affect route networks. These include:

- Bordering jurisdictions which have approved route networks which have to be considered when making route designations in the WEMO area; and
- Other BLM programs and plans which may affect the need for route designations in specific parts of WEMO.

These other planning efforts and programs are discussed below.

1.6.2.1 Bordering Jurisdictions

Public lands within the WEMO Planning area and adjacent to the Planning area boundaries are bordered on all sides by other jurisdictions. These include federal land managed by the USDA Forest Service, National Park Service, Department of Defense (DoD); state lands managed by the California Department of Fish and Wildlife (CDFW) (formerly California Department of Fish and Game, or CDFG), State Lands Commission, California Department of Parks and Recreation, and California Department of Water Resources; City lands inside the municipal boundaries of which BLM may manage small isolated parcels, and private lands and roads subject to state, County, or municipal jurisdiction. Travel management on adjacent lands is managed through various management plans, general plans, and regulations, as follows:

- Land outside of the West Mojave Planning area but under the jurisdiction of the BLM is subject to the CDCA Plan or other applicable Land Use or Travel Management Plans, as discussed below;
- Adjacent National Forest Land is subject to applicable Forest, Land, and/or Travel Management Plans;

- Adjacent DoD land is subject to Installation Management Plans and, for the land area to be included within the expansion area for Twentynine Palms Marine Air Ground Combat Center, by the travel-related decisions in the February, 2013 Record of Decision;
- Adjacent State-, County- or City-owned land is subject to agency or jurisdiction-specific regulations and requirements for travel on those lands;
- Adjacent routes on private land that are designated as part of a County or city network are subject to the applicable General Plan for that County or city;
- Adjacent routes on private land that are not designated as part of a County or city network are not subject to any jurisdiction, but will be considered by BLM in the network development process.

Issues to be considered with respect to these adjacent route networks include maintaining continuity of access across jurisdictional boundaries; maintaining access (where appropriate) to private lands, approved facilities, and recreational opportunities located outside of the WEMO Planning Area; addressing access compatibility and consistency with local plans, and coordinating trespass issues on adjacent jurisdictions with responsible local law enforcement and County agencies.

Specific information related to travel management on adjacent planning areas is provided below:

Northern and Eastern Mojave (NEMO) CDCA Plan Amendment

The NEMO planning area lies to the northeast of the western Mojave Desert, in the area that generally lies between Death Valley National Park and the Mojave National Preserve and directly abuts the West Mojave Planning Area to the east. The NEMO Plan amendment to the CDCA Plan was implemented in a ROD that was signed in December 2002. With respect to travel management, the NEMO ROD designated all routes within the NEMO area as "open", "limited", or "closed". The NEMO Plan also eliminated the portion of the Barstow to Las Vegas Race Course within the NEMO planning area.

Northern and Eastern Colorado (NECO) CDCA Plan Amendment

The NECO planning area lies to the southeast of the western Mojave Desert, in the area that generally lies south of I-40, and adjacent to the eastern half of Joshua Tree National Park. The NECO Plan amendment, like the NEMO Plan amendment, was signed by BLM in December 2002. With respect to travel management, the NECO ROD designated all routes within the NECO area as "open", "limited", or "closed". Some wash areas were designated open or closed such that all wash routes in those areas would be available or not available for use. The NECO Plan also left in place the portion of the Johnson Valley-Parker route within the NECO area because it lay entirely outside of DWMAs and had minimal species sensitivity issues. However it has not been proposed and authorized for use for competitive events since the approval of the NECO Plan.

National Forest Plans

The National Forests which border the WEMO area include the San Bernardino National Forest, Angeles National Forest, Inyo National Forest, and Sequoia National Forest. Both the San

Bernardino National Forest Management Plan and Angeles National Forest Land Management Plan RODs were signed in April, 2006. These plans included a variety of program strategies, some of which focused on travel management. National forest lands generally provide specific designated access routes to and through each forest onto adjacent public and private lands, consistent with forest land designations and overall recreation management goals.

The San Bernardino National Forest (SBNF) identified lands along the boundary of the National Forest and public lands as a major focal point for travel management, and BLM is working with the local and regional SBNF office to identify appropriate public access strategies and achieve shared goals along shared boundaries and watersheds. These strategies are being incorporated into the WMRNP to the extent feasible. The Inyo National Forest Land and Resource Management Plan was signed in 1988, and is currently being revised. The 1988 Plan provided definition of management requirements for OHV use in certain areas of the Forest. The Inyo National Forest also prepared a Travel Management Plan in August 2009 which made changes to routes included within the National Forest Transportation System (NFTS), and that include some routes adjacent to the WEMO route network.

The Sequoia National Forest Land and Resource Management Plan was signed in 1988, and is also currently being revised. The Forest released a Final EIS for their Motorized Travel Management Plan in 2009.

National Park/Preserve Plans

The National Parks and National Preserves which border the WEMO area include Sequoia, Joshua Tree, and Death Valley National Parks and the Mojave National Preserve. The Sequoia National Park General Management Plan was finalized on September 14, 2007. The Death Valley National Park General Management Plan and Mojave National Preserve General Management Plan were both authorized in April, 2002. The Joshua Tree General Management Plan is currently being developed. These federal lands generally provide specific designated access routes to and through the Park onto adjacent public and private lands, consistent with Park goals.

Department of Defense Plans

The DoD installations that border the WEMO Planning area include Fort Irwin, Twentynine Palms Marine Air Ground Combat Center (MCACC), Edwards Air Force Base, and Naval Air Weapons Station China Lake. Each of these installations operates under an Installation Management Plan which address motorized vehicle access and management. BLM coordinates closely with the installations to ensure maintenance of access, as well as to address use of BLM routes for unauthorized access to the installations.

The February, 2013 Expansion of Twentynine Palms MCACC includes development of a mechanism to allow limited motorized vehicle access on portions of the Expansion Area in a manner similar to access in BLM OHV Open Areas, when the land is not being used for military exercises. Legislation titled the Military Lands Withdrawals Act of 2013 was passed as an element of PL 113-66, which expanded the 29 Palms Marine Corps Air-Ground Combat Center (MCAGCC) adjacent to the Johnson Valley OHV Open Area. Congress modified alternative 6 enabling the USMC to withdraw lands to the south and west of the current 29 Palms MCAGCC within an Exclusive Military Use Area (EMUA), and to also conduct Marine Expeditional

Brigade (MEB) level live–fire training while increasing the amount of land available for recreational use in a Shared Use Area (SUA). The MCAGCC Expansion includes approximately 79,000 acres to the west, and approximately 19,000 acres to the south, of the 29 Palms MCGACC that were withdrawn for the EMUA, and to be managed by the Secretary of the Navy.

In the legislation, approximately 53,000 acres is designated as a SUA to be managed by the Secretary of the Interior for public recreation during any period in which the land is not being used for military training and as determined suitable for public use, as well as natural resource conservation. For two 30-day periods per year, the SUA will be used and managed by the Secretary of the Navy for military training. The SUA together with approximately 43,000 acres to the west of the authorized MCAGCC withdrawal boundary has been designated as the *Johnson Valley Off-Highway Vehicle Recreation Area* in PL 113-66, totaling approximately 96,000 acres.

Red Rock Canyon State Park

The California Desert Protection Act (1994) conveyed lands from BLM to the State to add to Red Rock Canyon State Park. The State did not accept some of these lands because they were encumbered with mining claims pursuant to the Mining Law of 1872. The California Department of Parks and Recreation and the BLM jointly manage these lands. BLM published a 20-year Segregation Order for Public Lands within Red Rock Canyon State Park that is in effect until May, 2017 (Public Land Order No. 7260 Federal Register notice 62FR26324, May 13, 1997). This order withdraws all BLM-managed lands in Red Rock Canyon State Park from operation of all public land laws and mineral laws subject to valid existing rights to protect the Park. Routes in and out of the Park cross BLM-managed public lands within the El Paso TMA and the Jawbone TMA.

Other State Lands

State Lands are intermingled with BLM public and private lands throughout the planning area and are managed by various State agencies. Generally travel management strategies on State lands are handled on a case by case basis. Most State Lands are managed by the California State Lands Commission (CSLC). The California Department of Fish and Wildlife (CDFW) also has land holdings or easements in the planning area. Other State agencies have very modest land holdings. CSLC generally does not identify travel routes on State lands, except where those lands have been identified or zoned for specific uses or for conservation purposes. The California Department of Fish and Wildlife has acquired mitigation lands for conservation of sensitive resources, and has otherwise obtained conservation easements on lands managed by third parties. When identified, travel management strategies on these conservation, mitigation, or easement lands respond to particular access needs or easement terms identified for the land consistent with state policies and interagency agreements.

County Route Networks

The WEMO Planning area covers parts of San Bernardino, Kern, Inyo, Los Angeles, and Riverside Counties. Each of these counties has a General Plan which includes a Transportation Element and maps of dedicated County Roads, some of which cross BLM-managed lands as well as County ordinances on private lands that directly or indirectly affect OHV use of the network.

Although the General Plans are not applicable to activities on Federal lands, BLM coordinates with the Counties to achieve consistency between federal and local plans, address unresolved issues and identify opportunities, maintain continuity of access across jurisdictional boundaries, and generally utilize the County Road system as a backbone for motorized access to OHV routes on public lands, consistent with Bureau policy.

Local Route Networks

The WEMO Planning area covers many municipalities. Generally, few BLM-managed lands are within these municipal boundaries and the lands within most municipalities are unclassified to facilitate management with surrounding lands. Municipalities generally have a General Plan which includes a maintained and unmaintained road network that links to surrounding County or BLM lands. Although the General Plans are not applicable to activities on Federal lands, BLM coordinates with the cities to assure appropriate through access on municipal routes and to address community needs and unresolved issues, consistent with Bureau policy. BLM also seeks to link its network to municipality networks to support their recreational goals and enhance their community recreational and economic opportunities, consistent with their plans and policies.

1.7 Coordination and Consultation

Federal Endangered Species Act (FESA)

The USFWS has jurisdiction to protect threatened and endangered species under the Federal Endangered Species Act (ESA) [16 U.S.C Section 1531 et. seq.]. Formal consultation with the USFWS under Section 7 of the ESA is required for any federal action that may adversely affect a federally-listed species. The consultation associated with the 2006 WEMO Plan amendment to the CDCA Plan was completed. The USFWS previously issued three BOs in association with BLM's route network designations in the WEMO Planning area. The first BO was issued in 2003 in association with BLM 2003 Decision Record establishing the route network in the WEMO area. The second BO was issued in 2006, in association with the 2006 WEMO Plan amendment itself, and addressed travel and route network issues along with all other decisions considered in the 2006 WEMO Plan. The third BO, issued in 2007, revised the 2006 BO by quantifying potential tortoise impacts, and modifying terms and conditions with respect to transportation and other issues. BLM will evaluate whether re-initiation of consultation on the 2007 BO based on changes proposed in this SEIS is required, and, if so, such consultation shall be completed prior to the signing of any Record of Decision associated with the proposed changes.

National Historic Preservation Act (NHPA)

The National Historic Preservation Act (NHPA) (16 USC 470) requires Federal agencies with jurisdiction over a proposed Federal project to take into account the effect of the undertaking on cultural resources listed or eligible for listing on the National Register of Historic Places, and requires that the agencies afford the State Historic Preservation Office (SHPO), any affected Indian tribe, and the Advisory Council on Historic Preservation (ACHP) with an opportunity to comment on the undertaking. In addition to conducting Section 106 consultation in the development of the WEMO specific Programmatic Agreement, the BLM is utilizing and

coordinating the NEPA commenting process to partially satisfy the public involvement requirements for Section 106 of the NHPA, as provided for in 36 CFR 800.2(d)(3).

BLM initiated the Section 106 consultation process with a letter to the California Office of Historic Preservation on February 16, 2012. In a 2012 agreement, BLM and the SHPO cooperatively developed initial data acquisition and analysis needs in support of the current planning effort. The ACHP was invited to participate in consultation by letter dated June 2, 2014 and has elected to participate by letter response dated June 24, 2014.

In coordination with the California SHPO and the ACHP, the BLM is complying with Section 106 through the negotiation of a WEMO specific Programmatic Agreement. The development of a Programmatic Agreement following the regulations at 36 C.F.R. §800.14 (b) is consistent with BLM guidance (IM-2012-067) for cultural resource considerations in off-highway vehicle designations and travel management efforts.

To date, BLM has completed a Phase I records-review for the Supplemental EIS, updated GIS cultural resources location layers, and conducted field monitoring of specific sites as outlined in the 2012 agreement with SHPO. A GIS-based sensitivity analysis and predictive modelling program is under development, which in part, includes a field verification phase. The results of the model will assist BLM prioritize and direct Phase II inventory needs identified through the development of the Programmatic Agreement. This model will assist the BLM in designing inventory strategies where cultural resources are most likely to occur; in the application of appropriate avoidance, minimization, or mitigation measures and adjustments to the travel network where adverse effects to eligible cultural properties are occurring; and in following the stipulations established in the PA.

Initial discussion and meetings have been held with SHPO to discuss the contents of the WEMO PA. Additional steps in the development of the agreement will be determined in consultation with SHPO, ACHP, and other consulting parties in upcoming discussions. To comply with Section 106, the WEMO Programmatic Agreement must be executed by the BLM, SHPO, ACHP and other invited signatories prior to the Record of Decision.

The travel management decisions ordered for completion in 2015 will include the designation of off-highway routes in the West Mojave Desert and portions of the Great Basin Transition Zone. Pursuant to 36 C.F.R. §800.14(b)(1)(i) and (ii), the effects on historic properties are likely to be similar and repetitive, cross multiple regions, and cannot be fully determined prior to the approval of the undertaking. As allowed under 36 CFR §800.4 (b)(2), the agreement is expected to include procedures for phasing the inventory and implementation plan for the identification of historic properties after the Record of Decision is signed. The Programmatic Agreement will also specify programmatic procedures for how the BLM intends to address effects to eligible historic properties, including effects from routes that are open and would remain open, routes that would be newly opened or closed, and routes that are unauthorized.

The BLM California currently utilizes *Supplemental Procedures for Livestock Grazing Permit/Lease Renewals: A Cultural Resources Amendment to the State Protocol Agreement between California Bureau of Land Management and the California State Historic Preservation Officer* (Supplement) to address the NHPA Section 106 compliance for processing grazing permit renewals for existing livestock allotments. The Supplement calls for BLM to address impacts of grazing on cultural resources through a Class II sampling and reconnaissance survey strategy. Inventory is focused on areas of high cultural resource sensitivity that overlap areas of

livestock congregation, including springs, water courses, meadows, and range improvement areas such as troughs and salting areas. Class I records searches and tribal and interested party consultation is to occur with each grazing permit renewal. Standard protective measures have been developed to address impacts to resources from livestock activities and an annual monitoring protocol is incorporated into the agreement.

The Supplement applies to the continued use of a grazing allotment at or below the authorized levels. Under the Supplement, range undertakings, including improvements and increases in AUMs allowed within the allotment will be reviewed on a case-by-case basis by BLM Cultural Resources Specialists.

Tribal Consultation

Tribal consultation is being conducted in accordance with policy, and tribal concerns, if any, are being given due consideration in evaluation of Plan amendment alternatives and development of the Programmatic Agreement. Consultation was initiated in 2011 with Federally- and non-Federally recognized tribal groups. Five tribal outreach open house meetings were held in early 2014 to hear additional input from the tribes, in advance of the SHPO meeting to initiate development of the Programmatic Agreement. Consultation is ongoing and will continue throughout the development and implementation of the West Mojave Route Network Project and associated Programmatic Agreement.

1.8 Organization of the Draft Plan and SEIS

The WMRNP and SEIS is organized as follows:

- Chapter One - ***Introduction*** provides an overview of the West Mojave Route Network Project, proposed plan amendment decisions and other proposals, and the scope of the SEIS; applicable regulations and policies; a brief history of WEMO planning and travel management planning, project purpose and need, the reasons for proposing the plan amendment, project scoping and issues, planning criteria; coordination and consultation considerations, and a table of the Court Issues that must be addressed.
- Chapter Two - ***Alternatives*** describes the four alternatives, including No Action, that are analyzed in detail for the WMRNP and SEIS, including alternatives related to CDCA Plan amendment under consideration, planning criteria, adoption of the WEMO travel management areas, and network goals being considered for amendment of the CDCA Plan. In addition, the frameworks for implementation of the four alternative route networks are evaluated. The process and parameters utilized to develop and minimize impacts from the alternatives are explained. A tabular comparison of the alternatives is provided. This chapter also describes other suggested alternatives that were discussed during the planning process but ultimately eliminated from detailed consideration in the EIS.
- Chapter Three - ***Affected Environment*** describes the current management situation summarizes key information from the 2006 WEMO Plan, and calls out those aspects of the natural and human environment that are likely to be affected by the adoption of the alternatives described in Chapter 2. Affected aspects of the environment include the region's natural, recreational, and cultural resources, social and economic considerations

in the western Mojave Desert, energy production and transmission, other commercial uses, including livestock grazing, and motorized vehicle access to public lands.

- Chapter Four - ***Environmental Consequences*** presents an analysis of the effects that adoption of each of the alternatives could have on the natural and human environment, updating and enhancing the analysis from the 2005 WEMO Final EIS, including cumulative effects.
- Chapter Five – ***Statutory Sections*** addresses the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity, irreversible and irretrievable commitments of resources, growth inducing effects, energy consumption and conservation, and environmental justice considerations.
- Chapter Six – ***Consultation and Coordination*** provides a summary of BLM's consultation and coordination activities, as well as the List of Preparers of the SEIS.
- Chapter Seven – ***Acronyms and Glossary*** provides the abbreviations and definitions of terms used in this document.
- Chapter Eight – ***References*** provides the reference materials used in the development of the SEIS.
- Appendix A presents a summary of comments received during the scoping process.
- Appendix B provides a description of the subregions, which served as the basis for analysis.
- Appendix C presents a summary of the vegetation and wildlife considered for evaluation in the SEIS.
- Appendix D provides an air quality analysis developed by the Mojave Desert Air Quality Management District in support of the WMRNP.
- Appendix E provides a summary of the history of the route designation process in the WEMO Planning area.
- Appendix F provides consultation and coordination letters related to BLM's interagency consultation efforts for the WMRNP.
- Appendix G provides an Implementation Plan for the WMRNP Travel Management Plans.

1.9 Court Issues Addressed in the SEIS

The SEIS has been developed specifically to ensure that issues identified by the Court in the 2009 Summary Judgment are addressed. The issues raised and the manner in which those issues have been addressed in the WMRNP, are summarized in Table 1.9-1.

Table 1.9-1. Court Issues Addressed in the SEIS

Court-Identified Issue	Description	Action Taken in Current SEIS
Sufficiency of Description of No Action Alternative Summary Judgment Order, Pg. 43, line 28 through Pg. 44, line 5.	The WEMO 2006 EIS did not sufficiently explain that the routes contained in the No Action Alternative included post-1980 routes, was larger than both the 1980 and 1985-1987/ACEC networks, and was smaller than the 2001-2002 inventoried network.	Chapter 3.1 of the SEIS discusses the evolution of the route designations in the area since 1980, and how that process has resulted in the routes in the current network which are the basis of the open route network in the No Action Alternative, and the basis for the comparison of impacts between alternatives. This description specifies that the No Action Alternative includes post-1980 routes, and describes how the No Action has changed over time based on the lack of clarity in the "existing routes" language and the incorporation of many partial inventories. Chapter 3.1 also discusses the relationship of the No Action Alternative to the larger universe of routes that constitutes the inventory (baseline). All routes within the inventory will be designated in the WMRNP, to determine whether they will or will not be available for use.
Sufficiency of Description of No Action Alternative Summary Judgment Order, Pg. 44, line 11 through Pg. 45, line 1.	The discussions of the No Action network throughout the WEMO 2006 EIS were not consistent. Instead of alternatives being compared only to the No Action Alternative, they were also compared to the 1985-1987 network, the 2001-2002 inventory, and the 2003 WEMO EA network. The Court stated that a single No Action network needs to be defined, described, and then used as the basis for comparison for all impacts.	The route network in the No Action Alternative was used consistently in the route analysis and discussion of impacts in Chapter 4 of the SEIS. A single configuration of network designations was entered into the GIS database for each alternative, including the No Action Alternative. The GIS analysis then compared this single configuration to each of the sensitive resources included in the analysis, and generated metrics showing the coincidence and proximity of the routes to the resources. These metrics are presented in tables in Chapter 4, and the text in Chapter 4 summarizes the results. There is no discussion presented regarding relative impacts of the 1980, 1985-87/ACEC, 2001-2002, or 2006 networks, as these are not relevant to the comparison of the current network to the potential alternative networks, and the potential impacts of the alternative networks.
Inclusion of Post-1980 Routes in Alternatives Summary Judgment Order, Pg. 36, lines 13-18, and Pg. 43, lines 10-14.	The Court states that BLM can designate additional routes that did not exist in 1980 (Summary Judgment Order, Pg. 36, lines 13-16). However, to do so, BLM must actually amend the language that restricts the network to pre-1980 routes. That amendment would need to be done in accordance with NEPA and FLPMA, and would have to explain why inclusion of post-1980 routes is justified.	Chapter 1.2 describes BLM's determination that the language restricting motorized routes to those existing in 1980 does not conform to BLM regulations in 43 CFR 8342.1, BLM Handbook 1610-1 (Appendix C), or BLM Handbook 8342. Therefore, this SEIS proposes to revise that language to conform to current regulations and policy. This SEIS acts as the mechanism for complying with NEPA and FLPMA in evaluating the impacts associated with this change in the language. Chapter 2.6 explains why developing alternatives that do not conform the CDCA Plan language to current regulations and guidance is not considered for analysis.

Table 1.9-1. Court Issues Addressed in the SEIS

Court-Identified Issue	Description	Action Taken in Current SEIS
Criteria Used for Route Designations Summary Judgment Order, Pg. 24, line 20 through Pg. 25, line 11.	The Court provides an extensive analysis of the Decision Tree used in the WEMO 2006 EIS to demonstrate that it did not consider these factors (Summary Judgment Order, Pg. 18-30). According to this analysis, the only resource impacts considered in the Decision Tree include impacts to sensitive species. The Court's analysis of the Decision Tree concludes that it does not address impacts to other resources, and even with respect to sensitive species, the analytical methodology heavily favors maintaining existing routes unless it can be shown that those routes are redundant. Also, the Court studied the route-specific designation forms to see if the other criteria were ever applied in making a route designation, and determined they were not.	The process used by BLM to evaluate impacts associated with the various route network alternatives is discussed in Section 2.3 of the SEIS. This process included identifying resources data and its currency, and verifying its usefulness, consolidating all locations of 32 potentially affected resources for which such geographic data existed into the GIS database, and then comparing these locations to the route location. Section 2.3 of the SEIS provides tables listing these resources, and discusses how the 43 CFR 8342.1 criteria were used in order to establish a designation for each route within each alternative. This analytical output was augmented to factor in other, potentially affected resources and factors, including site-specific knowledge and other non-GIS database sources.
Reasonable Range of Alternatives (Same Mileage of Routes in Each 2006 WEMO Alternative) Summary Judgment Order, Pg. 40, line 11 through pg. 42, line 4.	As discussed in the Court's Summary Judgment Order (Pg. 39), the alternatives considered in the WEMO 2006 EIS only varied in terms of type of designation (open or limited), and in terms of management prescriptions. The route network itself, on which OHV use was allowable, comprised the same 5,098 mile network in all seven alternatives analyzed.	Table 2.4-1 of the SEIS shows the extent of the route network designated under each of the alternatives analyzed in the SEIS. The different networks were developed by choosing a set of objectives; establishing minimization triggers to indicate a potential effect with respect to the 43CFR8342.1 based on proximity between route and resource or related factor for each of the 32 resources; additional recreation and use data relevant to objectives, and then running a GIS analysis which generated the route designations for each alternative. The output was then augmented to factor in other resources not available in GIS and route knowledge, public input, and network needs. As can be seen in Table 2.4-1, the Alternative objectives, sensitivity analysis for minimization, and particular strategies selected to minimize effects resulted in a wide range of network sizes.

Table 1.9-1. Court Issues Addressed in the SEIS

Court-Identified Issue	Description	Action Taken in Current SEIS
Soils Summary Judgment Order, Pg. 48, lines 16-18.	The Court acknowledged that the WEMO 2006 EIS contained a detailed discussion of the general impacts of OHV use on soils. However, the Court held that the EIS did not provide any discussion of the particular impact the proposed OHV route network would have on the soils that exist in the area (Summary Judgment Order, Pg. 48). The Court specified that the WEMO 2006 EIS does not need to have a route-by-route discussion of soil impacts, but should contain some specificity with regard to the resources present and the proposed route network.	The previous discussion of the general impacts of OHV use and grazing on soil was reviewed, and is updated in Chapter 4.3 of this SEIS. The GIS analysis evaluated each of the alternative route networks, and made proposed route designations based on the potential for soil erosion along each route by analyzing the degree of slope crossed by the route, as well as by considering areas with documented soil erosion issues.
Grazing Summary Judgment Order, Pg. 48, lines 17-18. Pg. 42, footnote 33.	Although the Court's Summary Judgment Order is substantially focused OHV use, the suit filed by the Plaintiffs also alleged deficiencies in the analysis of grazing. The issue of grazing was addressed in limited portions of the Summary Judgment Order, and was held to be deficient in a few areas, including soils. The Summary Judgment Order (Pg. 48, lines 17-18) stated that the ". . . WEMO 2006 EIS should contain some discussion of the particular impacts on soils of the proposed Plan, both with regard to the designated OHV network, and livestock grazing". Finally, the Summary Judgment Order refers to the plaintiff's claim that BLM should evaluate a wider range of grazing alternatives (Pg. 42, footnote 33) and concludes with "On remand, the BLM will consider a host of factors, including grazing issues, in its alternatives analysis."	Table 2.4-3 of the SEIS shows the extent of the grazing program that would be authorized under each of the alternatives analyzed in the SEIS. Alternatives are considered that address further limitation of the grazing program in the WEMO Planning area through the elimination of grazing on additional allotments for watershed and wildlife conservation. Impacts of grazing on resources, including soils, riparian, and other water-related areas including UPA, were evaluated and addressed through allotment-specific Environmental Assessments (EAs) conducted since 2006. The analyses from these EAs have been revisited and the updated/incorporated into this document and augmented based on the results of the analysis of SEIS alternatives. Some of the allotments are now vacant or have been relinquished since 2006, making additional analysis of the possible impacts by livestock in those allotments moot at this time. The current status of the grazing allotments, and the conclusions from their EAs, are discussed in Section 3.7. The acres that would be reallocated from grazing purposes to wildlife conservation and ecosystem enhancement are discussed in Section 4.4 Tables, by alternative.

Table 1.9-1. Court Issues Addressed in the SEIS

Court-Identified Issue	Description	Action Taken in Current SEIS
Cultural and Historical Resources Summary Judgment Order, Pg. 50, lines 10-24.	With respect to cultural resources, the WEMO 2006 EIS acknowledged that OHV use may have significant effects on such resources, but also stated that there was inadequate baseline data to determine the actual effect. The WEMO 2006 EIS also stated that the significance of the effect would be evaluated when specific actions were proposed, and that those activities would not be approved until compliance with Section 106 of the NHPA and consultation with the SHPO and Tribes had been completed. The Court agreed with the Plaintiffs' argument that this analysis is insufficient. The Court reviewed the Decision Tree and the Administrative Record, and found no indication that cultural resource impacts were considered in the route designation process. The specific WEMO 2006 EIS language cited by the Court was "the effect of BLM routes of travel on public land cultural resources has not been fully determined because information needed to assess effect is incomplete at the present time". There was no evidence that a good faith effort was made to collect the needed information.	One of the 32 potentially affected resource factors included in the GIS analysis for the WMRNP was cultural resources, with a trigger mechanism based on each route and the associated stopping/parking/camping parameters, by alternative. Upon initiation of this SEIS, BLM also initiated consultation with the State Historic Preservation Officer (SHPO) regarding measures needed to address the Court's and SHPO's concerns related to the cultural resource issues in the WEMO 2006 EIS. As a result of this consultation, BLM and the SHPO agreed to a program that includes the following: • Update of the records searches for each travel route; • Consultation with tribes and interested parties; • Update of the BLM GIS cultural resources database; • Completion of the predictive model for each of the WEMO Subregions; • Class III surveys for specific undertakings that meet the requirements specified in the Programmatic Agreement; • Site visits at NRHP listed and one or more additional unevaluated sites in each sub-region, as well as sites identified by tribes and interested parties as being sensitive; • Development of a methodology for effects determinations; • Development of protection, monitoring, and reporting procedures; and • Development of a Programmatic Agreement pursuant to 36 C.F.R. §800.14 (b) These measures are discussed in Section 3.9 of this SEIS.

Table 1.9-1. Court Issues Addressed in the SEIS

Court-Identified Issue	Description	Action Taken in Current SEIS
Unusual Plants Assemblages (UPAs) and Riparian and Water Resources Summary Judgment Order, Pg. 51, lines 15-19. Remedy Order Pg. 15	The Court's conclusion regarding water-based UPA and riparian and water resources referred back to the Plaintiffs' discussion of soil resources. Similar to soils, the WEMO 2006 EIS generally discussed the impact of OHV use and grazing on these UPA/riparian resources. However, the WEMO 2006 EIS did not discuss any impacts of the specific route network on any specific UPA/riparian resources. Similar to soils, the Court does not require a route-by-route discussion, but does require a discussion that is specific to the area and alternatives. The Remedy Order also required BLM to implement additional information gathering and monitoring regarding riparian areas and UPAs, including new proper functioning condition (PFC) assessments for all of the springs and seeps in the WEMO area.	The specific locations of designated water-related UPA, known riparian areas, and surface water resources were incorporated into the GIS database used to analyze the route network alternatives. These locations were incorporated into 3 of the 32 location-specific natural and cultural resources for which geographic data were compared to the route networks, and for which mitigation and designation triggers were developed. A general discussion of impacts to these resources from motorized vehicle use and grazing is provided in Chapter 4. The results of the GIS analysis are also presented in Chapter 4, including a summary of the length of routes in close proximity to known UPA, riparian, and water resources for each alternative. Finally, updated information on the current condition of each riparian area has been evaluated through Proper Functioning Condition (PFC) assessments conducted since the 2006 WEMO Plan. The results of those assessments are provided in Chapter 3. These assessments continue and as new data is collected, the results will be integrated into the baseline and analysis, including for grazing. The findings that result from these PFC assessments that identify impacts from grazing will trigger management actions that would mitigate those identified impacts.

Table 1.9-1. Court Issues Addressed in the SEIS

Court-Identified Issue	Description	Action Taken in Current SEIS
Sensitive Species – Mojave Fringe-Toed Lizard Summary Judgment Order, Pg. 51, lines 13-20.	The Court's rejection of the Mojave fringe-toed lizard analysis was based on a comparison of two statements in the WEMO 2006 EIS. In the Species Account for the lizard, the text stated that there is no recent data on population status and density. However, the effects analysis stated that the primary routes would cover about one-fourth of the occupied habitat, and still concluded that the routes would not impact the species. The Court held that, after acknowledging that there was limited data and that the routes covered one-fourth of the habitat, the conclusion that there were no impacts was not supported by any factual basis. In addition to the findings of the Summary Judgment Order, the Remedy Order (Pg. 14-15) required BLM to implement additional information gathering and monitoring regarding the status of the Mojave fringe-toed lizard and its habitat.	Mojave Fringed-toed lizard (MFTL) monitoring began in the West Mojave in the spring of 2012 in three Mojave River parcels. In 2013 monitoring was expanded to the remaining MFTL ACEC parcels including three other Mojave River parcels and a representative location in 29 Palms MCAGCC. The results of the surveys are discussed in Section 3.4, and the results have been incorporated into the analysis of the route network.

Table 1.9-1. Court Issues Addressed in the SEIS

Court-Identified Issue	Description	Action Taken in Current SEIS
Air Quality Summary Judgment Order, Pg. 53, line 24 through Pg. 54, line 1. Remedy Order Pg. 9, lines 19-22. Remedy Order Pg. 14.	The Court evaluated several objections raised by the Plaintiffs with respect to the sufficiency of the air quality analysis. Of these, the Court held that BLM only analyzed the impact of air emissions on open routes, but did not analyze the impacts of OHV emissions that would occur within open areas. Further discussion of air quality was provided in the Court's Remedy Order dated January 28, 2011. The WEMO 2006 EIS concluded that, because the projected population growth in the planning area is lower than the projections used in the regional transportation plans and conformity statements, precursor emission levels would be lower than the budget established in the regional plans, and the WEMO 2006 EIS conforms to the SIP. Because all emission levels were below de minimus levels, BLM concluded that no further conformity analysis was necessary and a formal conformity determination was not required. On Pg. 9, lines 19-22 of the Remedy Order, the Court vacated the finding of consistency with the Clean Air Act, because it did not include an analysis of emissions from Open Areas. In addition, the Order (Pg. 14) required BLM to implement additional information gathering and monitoring regarding air quality in and around the Open Areas.	BLM coordinated with the California Desert Air Working Group (CDAWG), which included the five air districts within the WEMO Planning area, to supplement its air quality analysis and develop a strategy to comply with the Remedy Order. To demonstrate compliance with the Remedy Order, BLM contracted with the MDAQMD to compile the results from the 46 ambient air monitoring stations in a report to BLM (included in Appendix D). The report concluded that OHV Open Areas are not a significant contributor to either total unpaved road dust or fugitive windblown dust subcategories, and are thus not a significant contributor to regional PM10 emissions. A detailed evaluation of the MDAQMD report is presented in Section 3.2 of this EIS. The WEMO Plan Conformity Analysis was re-visited for this SEIS, based on the additional information provided in the MDAQMD report, and the results are presented in Section 4.2 of this SEIS.

Table 1.9-1. Court Issues Addressed in the SEIS

Court-Identified Issue	Description	Action Taken in Current SEIS
Cumulative Analysis Summary Judgment Order, Pg. 54, lines 11-16.	The Court's Summary Judgment Order did not conduct a specific analysis of the cumulative impact analysis in the WEMO 2006 EIS. The Court concluded that, because the specific impact analysis (especially with respect to soils, cultural resources, and water and riparian resources) was deficient, the cumulative analysis was also deficient. Since these analyses are to be re-done, the Court chose not to address the Plaintiffs specific arguments.	The specific analysis deficiencies cited in the Court's Summary Judgment Order have been addressed in this SEIS as discussed throughout this table. The cumulative analysis has also been modified from that done in the 2005 WEMO Final EIS by updating the lists of other past, present, and reasonably foreseeable future projects and activities in the area, and incorporating additional recent information on known impacts from those projects and activities.

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CHAPTER TWO
ALTERNATIVES

As presented in Chapter 1, the Purpose and Need for the West Mojave Route Network Project (WMRNP) is to adopt a comprehensive framework for transportation management and specific travel management network and other implementation strategies in Limited Access Areas of the West Mojave Planning Area that (1) limits conflicts and threats to sensitive resources, (2) responds to current and anticipated future transportation and travel needs, (3) provides appropriate recreational access, and (4) is consistent with the overall motor vehicle access and conservation goals of the 2006 WEMO Plan. Additionally, the Supplemental Environmental Impact Statement (SEIS) will analyze grazing impacts on specific resources in response to the Court's statements of inadequacy.

The Transportation and Travel Management goal of the 2006 WEMO Plan is to provide appropriate motorized vehicle access to public lands for commercial, recreational, and other purposes in a manner that is compatible with species conservation. This EIS supplements the 2006 WEMO Plan and has been developed to be consistent with the conservation goals of the 2006 WEMO Plan, which remain in effect where pertinent to public lands. The conservation goals of the 2006 West Mojave Plan are to develop a regional biological strategy to conserve plant and animal species and their habitats and to prevent future listings; and to provide an equitable and cost-effective process for complying with threatened and endangered species laws. More specific conservation objectives and strategies associated with the various plant and animal species are outlined in Chapter 2 of the 2006 WEMO Plan. New disturbance limitations that have been adopted for many sensitive areas in the 2006 WEMO Plan, also establish a general limitation on new road construction across broad landscapes. A few of the conservation objectives and strategies associated with various species include specific parameters for transportation management in identified locations.

The West Mojave Route Network Project (WMRNP) plan amendment and adopted travel network must comply FLPMA, Executive Orders 11644 and 11989, BLM's regulations that establish "designation criteria" for OHV routes, in 43 CFR 8342.1, and follow BLM Handbook 1610-1, Appendix C, Comprehensive Trails and Travel Management, BLM Manual 1626, Travel and Transportation Management, and BLM's Travel and Transportation Management (TTM) Handbook (H 8342, BLM 2012) to provide an implementation framework for route designations in the WEMO Planning Area. This chapter describes the Land Use Plan (LUP)-level decisions and implementation-level activity decisions (including travel network alternatives) that are analyzed in Chapter 4 of this SEIS.

Four alternatives are described in this chapter and analyzed in Chapter 4 of this SEIS that provide both a framework to designate routes and an implementation-level transportation network and strategies to manage the risks and evaluate impacts of the transportation system. In addition, the four alternatives in this chapter and analyzed in Chapter 4 evaluate livestock grazing in the planning area. The action alternatives further limit livestock grazing in DWMAs beyond those restrictions contained in the 2006 WEMO Plan (see Alternative 1 – No Action). All action alternatives also propose the discontinuation of livestock grazing throughout the planning area on inactive, vacant grazing allotments, making them unavailable for livestock grazing.

Alternative 1 is the No Action alternative, and utilizes the existing management approach as adopted by the 2006 WEMO Plan, updated by changes in data, policy, and circumstances, including court decisions, consistent with the BLM's LUP regulations in 1610.5-5. The 2006 WEMO Plan approach utilizes 1980 CDCA Plan Motorized Vehicle Access (MVA) Element and associated Recreation Element goals, applies broad regional access management strategies to manage risks and impacts to specific resources across broad areas of the West Mojave, and supplements the strategy with site-specific strategies to address resource values and site conditions. Implementation priorities and strategies are outlined in the plan and driven by the goals and objectives of the 2006 WEMO Plan. Various route designation inconsistencies between the 1980 CDCA Plan and the 2006 WEMO Plan are not addressed in the No Action Alternative.

Alternatives 2, 3, and 4 each amend the CDCA Plan MVA and Recreation Element goals and objectives to integrate with the route designation parameters and broad regional strategies developed in the 2006 WEMO Plan, and with current transportation management guidance. Alternative 2 provides a transportation management framework and more stringent minimization and mitigation triggers based on each regulatory designation criteria. These triggers result in development of a route network alternative that minimizes conflicts and threats to sensitive resources by closing or limiting routes as a primary means to reduce the sensitive resource conflicts and threats and identifying where mitigation is appropriate. Alternative 3 provides a transportation management framework and somewhat less stringent triggers based on each regulatory designation criteria. These triggers result in development of a route network alternative that minimizes conflicts and threats to sensitive resources by mitigating conflicts and threats, with an emphasis on appropriate mitigation measures, rather than route closure or limitation as the primary mechanism to reduce conflicts and threats. Alternative 4 is not developed using the triggers at the outset because it is a modification of No Action. Alternative 4 utilizes the No Action network as adopted by the 2006 WEMO Plan, and modifies the No Action route network in response to specific agency, community, and public comments to recognize specific travel needs. The triggers are then applied to address the designation criteria and make adjustments to the network to minimize conflicts and impacts to sensitive resources, including those specified in 43 CFR 8342.1. The thresholds used to trigger review for adjustments to the network are similar to those applied under Alternative 3. Mitigation strategies are then applied, including closure, to reduce conflicts and threats to sensitive resources. These approaches result in a range in management commitments for implementation and compliance, but do not result in a more or less aggressive approach to pursuing compliance. The Alternatives also address the Court's direction that at least one of the alternatives designate a network with less than 5,098 miles of routes.

The development and description of alternatives in this chapter are organized as follows:

- Section 2.1 provides a summary of access management decisions, both at the land use plan and the implementation or activity level to address the goals and objectives of the WMRNP;
- The Land Use Planning Alternatives are described in Section 2.2;
- Section 2.3 summarizes all features of each alternative, including the agency's preferred alternative;
- Section 2.4 provides a comparative summary of the alternatives;

- The alternatives considered, but not carried forward for detailed evaluation, are described in Section 2.5; and
- Procedures for modifying the Plan are provided in Section 2.6.

Definitions that are used throughout this document that the reader should be familiar with include the following:

- The term "access" may refer to any type of linear ground access, whether for motorized, non-motorized (e.g., mountain bike), or non-mechanized use (e.g., horse, hiking).
- A "route" also includes all types of access, unless otherwise specified.
- A "closed" route is the term used in the 2006 WEMO plan to indicate that a designated route is unavailable for motorized use.
- A "transportation linear disturbance" is the term now used in BLM travel management guidance to indicate that a designated route is unavailable for motorized use—that it is essentially "closed", and has not otherwise been identified as a specialized trail, such as the Pacific Crest Trail. While there are nuanced differences, generally closed routes and transportation linear disturbances are equivalent, and are used interchangeably in this document.
- A "limited" route is the term used in the 2006 WEMO Plan for a designated route that has been limited to specified uses or users, generally for authorized users (permittees) or for the agency, and occasionally, for specific uses, seasons, or vehicle types.
- All routes available for use outside of OHV Open areas are now considered "limited" because they are located in Limited access areas. This document indicates whether and how each route is limited.
- The majority of "limited" routes in this plan are not restricted to any one type of use. These routes are indicated as "limited to motorized use" routes; they are roughly equivalent to "open" routes in the No Action alternative.
- Other "limited" routes do have restrictions. These restrictions have specified categories. Restrictions could include restricting use to specific vehicle types, to non-motorized travel, or to a specific type of non-motorized travel (such as bicycling), to seasonal use, to non-mechanized travel (equestrian/pack animal, canoe, hiking, skiing), or to one type of non-mechanized travel. May also include restriction of the route to administrative (agency) use or authorized (by permit or other signed approval) use.
- An "open" route is the term used in the 2006 WEMO Plan for a designated route that is available for motorized use outside of OHV Open Areas, and on rare occasions for specific motorized vehicle types and uses, as indicated by the route number (i.e. "M" routes for motorcycles and "C" routes for competitive use routes).
- A "trigger" is the term used to describe any one of the 29 factors used to signal the need to review a route for application of minimization or mitigation.

See the glossary for other terms used in this document.

2.1 Land-Use Plan Management, CDCA Plan Amendment, and Implementation Decisions to be Made

The WMRNP requires both LUP-level decisions and implementation-level activity decisions to be made to accomplish the Purpose and Need.

2.1.1 Background to Land-Use Plan - Level Decisions

The WMRNP is in response, in part, to the US District Court's Summary Judgment and the pertinent Remedy Order that are available on BLM's West Mojave website at http://www.blm.gov/ca/st/en/fo/cdd/wemo_court_mandates.html. The Court vacated the route designation portion of the 2006 WEMO Plan and ordered BLM to revisit certain aspects of the 2006 WEMO Plan and its route designation decisions. In addition, the 1994 California Desert Protection Act (CDPA) and subsequent wilderness legislation has yet to be incorporated into the Motorized Vehicle Access (MVA) Element of the CDCA Plan. Thirdly, BLM has adopted a Bureau-wide Transportation and Travel Management (TTM) System which provides for more inclusive travel management decisions. Finally, the CDCA Plan includes some mitigation measures for access impacts that are being revisited. BLM is considering here the extent to which these are still appropriately plan-level decisions.

The Motor Vehicle Access LUP-level decisions are being made at two levels:

A. Establishment of the general travel management framework goals and objectives for access management in the West Mojave Planning area. This includes establishment of Travel Management Areas (TMAs) as the geographical basis for implementation of the route management plans, and establishing the goals and objectives to be accomplished with the resulting transportation network; and

B. Adoption of specific Plan Amendment decisions that are necessary to address 2006 WEMO Plan inconsistencies with the CDCA Plan's Motorized Vehicle Access Element, and/or would support the goals and objectives of the WMRNP. Some of the proposed planning-level decisions identified in the alternatives specifically respond, in part, to the US District Court findings and remanded portions of the 2006 WEMO Plan, as discussed later in this chapter.

The Livestock Grazing LUP-level decisions include:

A. Livestock Grazing Element changes are being made to reflect voluntary relinquishment, boundary and forage allocation updates, expressed as Animal Unit Months or AUMs, on two specific allotments that have donated valid grazing leases under authority of the 2012 Appropriations Act.

B. Additional Livestock Grazing Program LUP-level decisions are being considered in response to Summary Judgment Order direction. The Summary Judgment Order (page 42, footnote 33) indicated "Plaintiffs also argue that the FEIS's range of alternatives was insufficient because none of the alternatives would end grazing in the DWMAs and U.S. Fish and Wildlife desert tortoise critical habitat units (CHU) as recommended in the Desert Tortoise Recovery Plan....The Court finds it unnecessary to decide whether the range of alternatives is also deficient on this ground....On remand the BLM will consider a host of factors, including grazing issues, in its alternatives analysis."

2.1.2 Planning Decisions

Specific planning decisions to be made in the WMRNP include LUP-level decisions which are amendments to the Plan, as well as non-plan amendment (activity-level) decisions made to implement elements of the CDCA Plan. The LUP-level decisions are summarized in Table 2.1-1.

Table 2.1-1. Summary of LUP-Level Decisions in the West Mojave Route Network Project

Component	Affected Section of CDCA Plan (1999 Reprint)	Summary of Draft Amendment
Draft Plan Amendment Decisions to be Made Under All Action Alternatives		
PA I: Change the CDCA Plan language that limits the WEMO route network to existing routes of travel as of 1980.	Pg. 77, Limited Area, reference to "existing routes of travel". Similar language on Page 81, Interim Management. Also, Table 1, Line 14.	References to existing routes of travel would be deleted, and replaced with language describing the process for designating a travel network in accordance with 43 CFR 8342.1 and the BLM TTM Handbook.
PA II: Update the CDCA Plan to incorporate the TTM process.	Pgs. 77-78, Route Designations. Pg. 76, Area Designations; Pg. 77, Limited Areas; and Pg. 79, Limited Areas.	Discussions of open, limited, and closed route designations in the CDCA Plan would be updated to conform to the definitions in BLM's TTM Handbook. In general, the linking of route designations to Multiple Use Classes (MUC) would be eliminated. MUC may be a criterion in making individual route decisions in designating the travel network, but is not a replacement for the overall decision process.
PA III: Update OHV Area designations in the CDCA Plan to reflect changes made through wilderness designations.	Pg. 77, Open Area, Reference to Class I, and Table 8.	The Plan amendment would update OHV Area designations that were previously designated as Limited Areas, but which have since been closed due to designation of wilderness or other legislative actions.
PA IV: Identify CDCA Plan amendment triggers.	Pg. 82, Revisions	The section of the Plan would be modified to provide triggers to determine when a Plan Amendment is required during future changes to the designated travel network.
PA V: Update the livestock grazing program in the CDCA Plan to reflect changes made under authority of the 2012 Appropriations Act (Public Law 112-74).	Pg. 58, Allocations for livestock grazing	This Plan Conformance action would update the CDCA Plan to reflect that the Lava Mountain and Walker Pass Common Allotments have been permanently relinquished and the AUMs in these two allotments have been reallocated from livestock forage and use to wildlife use and ecosystem functions.
Proposed Plan Amendment Decisions Which Would be Varied Among Alternatives		
PA VI: Designate Framework by adopting Travel Management Areas (TMAs) and associated objectives.	Not designated in current CDCA Plan	TMAs would be designated, in accordance with BLM's TTM Handbook, to facilitate travel management planning.
PA VII: Update parameters for organized competitive event access and corridors.	Pg. 71, parameters for management of competitive events.	The Plan amendment would update specific parameters for the management of competitive events, and potentially eliminate the Johnson Valley to Parker Competitive Corridor.

Table 2.1-1. Summary of LUP-Level Decisions in the West Mojave Route Network Project

Component	Affected Section of CDCA Plan (1999 Reprint)	Summary of Draft Amendment
PA VIII: Modify general access designations related to washes, sand dunes, and dry lakes.	Pg. 78, discussion of Washes, Sand Dunes, and Dry Lakes, and Table 9.	The Plan amendment would update the descriptions of approved access to specific wash, dune, and dry lake areas.
PA IX: Change the 2006 WEMO Plan limitations on motorized access into the Rand Mountains-Fremont Valley Management Area.	2006 WEMO Plan ROD, Pg. 15-16.	Eliminate the requirement for a permit, obtained through a formal process, to enter the designated access network in theRand Mountains-Fremont Valley Management Area.
PA X: Change the CDCA Plan and WEMO Plan limits on stopping and parking adjacent to designated routes in the WEMO Plan area.	Pg. 78, Stopping and Parking	The CDCA Plan's limitation on stopping and parking more than 300 feet from routes of travel would be modified to meet access and resource protection objectives.
PA XI: Reallocate AUMs and modify allotment boundaries for those allotments in DWMAs, USFWS designated critical habitat, or otherwise inactive.	Pg. 58, Allocations for livestock grazing	Eliminate livestock grazing in DWMAs, designated critical habitat or other inactive allotments and reallocate AUMs.

All action alternatives include Plan Amendment decisions to address inconsistencies between the CDCA Plan, the 2006 WEMO Plan, and current regulations and policy, as well as to provide a consistent baseline for analysis of alternatives. The No Action alternative would not resolve these inconsistencies; existing plan decisions would stay in place. Other CDCA Plan Amendment decisions are also being considered under the action alternatives in order to meet specific motor-vehicle access goals and objectives of the alternatives and to address other aspects of the Court Orders, such as elimination of grazing in DWMA. The rationale for and specific description of each plan amendment decision are provided in the following subsections.

Proposed Plan Amendment and Conformance Decisions under All Action Alternatives

The following proposed plan amendments and plan conformance updates are proposed in the West Mojave Route Network Project, and would be the same under all action alternatives.

PA I: Limiting Route Network to 1980 Baseline

The current language in the CDCA Plan within "Limited" areas provides a 1980 inventory that is interpreted to be the universe of routes from which "approved routes" can be identified. The CDCA Plan's Motorized Vehicle Access Element discussion of allowable vehicle use in OHV "Limited" areas reads as follows:

> "At the minimum, use will be restricted to existing routes of travel. An existing route of travel is a route established before approval of the Desert Plan in 1980,

with a minimum width of two feet, showing significant surface evidence of prior vehicle use or, for washes, history of prior use."

The language creates an unmanageable situation 35 years after the approval of the CDCA Plan. For one thing, the 1980 route network continues to be in dispute due to the limitations of the source data, and is poorly known. Also, there is much confusion over the interpretation of the sentence that, "At a minimum, use will be restricted to existing routes of travel." Also, the 1980 network has undergone substantial changes, both planned and unplanned, and applied to a public land base that is significantly different than it was in 1980 as a result of major acquisitions, donations, and exchanges.

Ultimately, the language in the CDCA Plan no longer serves current transportation and travel management needs, and there is no assurance it responds appropriately to sensitive issues. The existing routes language as it is currently interpreted, is also in conflict with how route designation was conducted in the 2006 WEMO Plan, in various ACEC Plans, and in approving rights-of-way and other permits since the approval of the 1980 CDCA Plan. In response, BLM proposes to revise the CDCA Plan to be consistent with current regulatory and management policy regarding designation of routes for motorized vehicle access, and to provide a mechanism for designating, limiting, or closing routes as new issues arise, on-the-ground information or needs change, and new public lands are acquired.

Based on a review of the Court's Summary Judgment order, BLM has determined that the language in the 1980 CDCA Plan restricting travel to existing routes does not conform to the procedures required in BLM's Travel and Transportation Management (TTM) Handbook (H-8342). The TTM Handbook establishes procedures for making route designations, including establishing new routes, and makes no reference to restricting BLM from establishing new routes. Also, BLM's other management responsibilities under FLPMA, including providing access for minerals exploration and issuing rights-of-way, leases, and other grants for new and existing facilities, demands consideration of new routes to provide access to those activities and facilities. The CDCA Plan recognized FLPMA access needs and made a distinction between public access and authorized access. The TTM Handbook recognizes the interconnected nature of transportation and travel, whether for public access or access for specified users, uses, or to access non-public lands. Now, in compliance with the requirements of the Court, the current planning action is proposed to consider modification of the CDCA Plan language that is not in conformance with the current TTM guidance and which is inconsistent with BLM's other management responsibilities under FLPMA.

As a result, the BLM proposes to modify the MVA Element and to eliminate the current "Limited to existing routes" language and replace it with language to reflect that use will be "restricted to designated routes of travel", except as otherwise indicated in Limited Access Areas. The specific routes, as well additional mechanisms and thresholds for their modification, would be identified and updated in travel management plans and through other mechanisms to keep the plans current. Broader network thresholds may be established at the LUP level for the entire network, and at the LUP or Activity Plan level for particular travel management areas, or other appropriate polygons.

PA II: Update Route Designation Process to Conform to TTM Handbook

The current CDCA Plan language is based on the former policy of designating individual routes in Limited Access Areas as Open, Limited, or Closed. The Open, Limited, Closed Route terminology has now been expanded to provide information on the specific users and uses of each route. The original terms are relevant but no longer adequate under the new TTM Handbook guidance, and would be augmented and replaced with a discussion of the current policy for designation of the travel network. The CDCA Plan also did not include designation of non-motorized or non-mechanized routes as part of a travel network, so these requirements of the TTM process would be incorporated into the CDCA Plan.

In addition, the existing CDCA Plan discusses route designations within the context of Multiple Use Class (MUC) designations, including blanket designations of routes in large areas based only on the MUC. While MUC may be one factor to be considered in designation of the travel network, this procedure does not consider route-specific resource conflicts as required by 43 CFR 8342.1. Therefore, the language making the route designations based only on MUC would be modified to conform with the TTM Handbook guidance.

PA III: Conform the Plan to Legislatively-Triggered Changes to Area Designations

Access Area boundaries within the WEMO Planning Area are being conformed to reflect post-2006 changes that result from legislation, to conform the CDCA Plan and to clarify the decision-making space for the WMRNP. Approximately 24,404 acres located north of Joshua Tree National Park and south of CA Hwy 62, that were previously designated as "limited" for OHV routes, are now "closed" to OHV. This area was designated as the Pinto Mountains Wilderness in San Bernardino County per the Omnibus Public Land Management Act of 2009, PL 111-11.

Legislation titled the Military Lands Withdrawals Act of 2013 was passed as an element of PL 113-66, which expanded the 29 Palms Marine Corps Air-Ground Combat Center (MCAGCC) adjacent to the Johnson Valley OHV Open Area. Congress modified Alternative 6 of the MCAGCC's *29Palms Training Land/Airspace Acquisition Project* FEIS enabling the USMC to withdraw lands to the south and west of the current 29 Palms MCAGCC within an Exclusive Military Use Area (EMUA), and to also conduct Marine Expeditional Brigade (MEB) level live–fire training while increasing the amount of land available for recreational use in a Shared Use Area (SUA). The MCAGCC Expansion includes approximately 79,000 acres to the west, and approximately 19,000 acres to the south, of the 29 Palms MCGACC that were withdrawn for the EMUA, and to be managed by the Secretary of the Navy.

In the legislation, approximately 53,000 acres is designated as a Shared Use Area (SUA) to be managed by the Secretary of the Interior (i.e., public lands under the jurisdiction of BLM) for public recreation during any period in which the land is not being used for military training and as determined suitable for public use, as well as natural resource conservation. For two 30-day periods per year, the SUA will be used and managed by the Secretary of the Navy for military training. The SUA together with approximately 43,000 acres to the west of the authorized MCAGCC withdrawal boundary has been designated as the *Johnson Valley Off-Highway Vehicle Recreation Area* in PL 113-66, totaling approximately 96,000 acres. BLM will continue to manage the *Johnson Valley Off-Highway Vehicle Recreation Area* under the provisions of the Johnson Valley OHV Area Plan, as updated by provisions of PL 113-66.

PA IV: Identify Plan Amendment Triggers to conform to TTM Handbook

The 2006 WEMO Plan LUP amendment triggers would be updated to reflect current Transportation and Travel Management guidance that addresses changes to site-specific designations and implementation strategies as activity planning decisions rather than Land-Use Planning decisions. Broad strategies, such as those for stopping, parking and camping over broad landscapes, would remain as land-use planning decisions. Site-specific decisions, such as the designation of specific camping or staging areas or the opening or closure of specific lakebeds could be made either as plan amendment decisions or as activity planning decisions within the applicable travel management plan, depending on other aspects of the LUP and consistency with other activity plans.

PA V: Conform the Grazing Program Allocations to Reflect post-2006 WEMO Plan Changes

Since the approval of the ROD for the 2006 WEMO Plan, the status of grazing allotments within the planning area has changed as a result of other factors besides the 2006 WEMO Plan decisions. Most of the grazing allotments remained actively grazed and conformed to any applicable grazing prescription changes made in the 2006 WEMO Plan.

The following Table 2.1-2 lists the status of the grazing allotment within the West Mojave Planning Area in 2014, as a result of the 2006 WEMO Plan and subsequent actions which follow from the 2006 WEMO Plan implementation.

Table 2.1-2. Allotment Status 2014

Allotment Name	Allotment Number	Active or Inactive in 2012
Antelope Valley	5052	Active
Boron	5057	Active
Bissell	5050	Active
Buckhorn Canyon	8012	Inactive
Cady Mountain	8006	Inactive
Cronese Lake	8007	Inactive
Darwin		Incorporated into LCM
Double Mountain		Inactive
Gravel Hills	8008	Inactive
Hansen Common	5006	Active
Harper Lake	8004	Inactive
Johnson Valley	8014	Inactive
Kelso Peak	5002	Active
Lacey-Cactus-McCloud (LCM)	5012	Active
Lava Mountain		Permanently relinquished under the authority of the 2012 Appropriations Act
Monolith-Cantil	5007	Active
Oak Creek		Inactive
Olancha	5011	Active
Ord Mountain	8005	Active
Pilot Knob	5056	Voluntarily relinquished
Rattlesnake Canyon	8003	Active

Table 2.1-2. Allotment Status 2014

Allotment Name	Allotment Number	Active or Inactive in 2012
Round Mountain	8013	Active
Rudnick Common	5008	Active
Shadow Mountain	8011	Active
Spangler Hills	5055	Active
Stoddard Mountain-Middle Unit	8010	Active
Superior Valley	8002	Inactive
Tunawee Common	5009	Active
Valley Well	8001	Active
Walker Pass Common		Permanently relinquished under the authority of the 2012 Appropriations Act.
Warren	5051	Active

In 2012, Congress passed and the President signed the 2012 Appropriations Act (Public Law 112-74, 125 Stat. 1048, Dec 23, 2011). This Act provided that the Secretary of the Interior "shall accept the donation of any valid existing permits or leases authorizing grazing on public lands within the California Desert Conservation Area. With respect to each permit or lease donated under this paragraph, the Secretary shall terminate the grazing permit or lease, ensure a permanent end (except as provided in paragraph (2)), to grazing on the land covered by the permit or lease, and make the land available for mitigation by allocation the forage to wildlife use consistent with any applicable Habitat Conservation Plan, section 10(a)(1)(B) permit or section 7 consultation under the Endangered Species Act of 1973".

Under this authority, two allotments have been donated within the WEMO Planning area—Lava Mountain and Walker Pass Common Allotments. Consistent with the 2012 Appropriations Act, the permanent relinquishment of the grazing preference for these two allotments has been accepted and AUMs were reallocated from livestock forage to wildlife use and ecosystem functions. The CDCA Plan will be conformed to reflect these changes.

Proposed Plan Amendment Decisions Which Vary among Action Alternatives

The following proposed plan amendment decisions would vary by alternative. None of these six decisions would be taken under the No Action Alternative. The specific features of the decisions under Alternatives 2, 3, and 4 are described in Sections 2.2 and 2.3.

PA VI: Designate Framework by Adopting TMAs and Associated Objectives

The 2012 BLM TTM Handbook specifies that BLM can delineate Travel Management Areas (TMAs) that meet the LUP objectives for each alternative. TMAs may be developed based on areas with unique or shared circumstances, high levels of controversy, or complex resource considerations. TMAs are an optional planning tool to frame transportation issues and help delineate travel networks to address specific uses and resource concerns. Based on the large size of the WEMO Planning Area, BLM proposes to designate TMAs to facilitate the development of activity plans. Each TMA would ultimately have an established set of objectives that govern the

designation of the transportation network, as well as future changes to the network, based on the alternative selected for that TMA.

PA VII: Update Parameters for Competitive Event Access

The 1980 CDCA Plan allows organized competitive events to be permitted on routes in Multiple Use Class (MUC) Moderate (M) and Limited (L), subject to specific parameters. Competitive events in MUC L are confined to paved or maintained roads, with the exception of four identified long-distance race courses. The intent was to readdress the use of routes for competitive events when route designation occurred (CDCA Plan, Recreation Element, p. 71).

The language on designation of specific routes for competition ("C" routes) is being updated in the CDCA Plan and being relocated from the Recreation Element to the MVA Access Element to be consistent with current Travel Management Guidance, and to consider route designations on a route-specific level, consistent with minimizing impacts per 43 CFR 8342.1 and the area-wide "limited" access designation that applies to routes in both MUC M and MUC L.

The 2006 WEMO Plan eliminated two of the three remaining long-distance race courses in the WEMO Planning area: the Barstow-to-Vegas motorcycle race course and the Johnson Valley to Stoddard Valley race course. The Johnson Valley to Parker Race Course was left in place. The availability of these race courses for competitive events would be reconsidered and modified in light of the current on-the-ground situation and the loss of acreage from the Johnson Valley OHV Open Area, and in reconsideration of all 43 CFR 8342.1 designation criteria.

PA VIII: Update Access Designations for Washes, Sand Dunes, and Dry Lakes

The 2006 WEMO Plan modified access parameters to allow motorized vehicle travel in washes only in those washes that are designated as "open routes" and signed as appropriate (2005 WEMO FEIS, p. 2-156). Previously use of washes was based on the MUC of the area within which they were located (CDCA Plan, 1999 rewrite, p. 78). This general approach is consistent with minimizing impacts per 43 CFR 8342.1 on a route-specific basis. Specific route designations for routes within washes are being considered within the context of the regulatory criteria.

Access on most dry lakes is subject to the access parameters of the surrounding lands. In limited areas within the WEMO Planning area, generally specific route designations would be identified for routes, including for routes across dry lakes. However, based on the unique geography of these areas, "routes of travel" cannot be readily delineated across many lakebeds. Therefore, many dry lakes within the CDCA, including in the WEMO Planning area are designated as either "open" or "closed" to vehicular travel regardless of the access parameters of the surrounding lands in which the lake beds are located. The lakebeds which were so identified are listed in Table 9 of the CDCA Plan, MVA Element (1999 reprint, p. 78). Since that time, the lakebeds in the Parish's Daisy ACEC were "closed". Four additional lakebeds are now be considered for lakebed-specific designations, based on changes in condition. The dry lakes are Koehn, Cuddeback, Coyote (the one northeast of Calico lakebed), and Chisholm Trail (also northeast of Calico lakebed off of Chisholm Trail Road).

PA IX: Update Access Designations in the Rand Mountains-Fremont Valley Management Planning Area

The 2006 WEMO Plan adopted limitations on vehicle access into the Rand Mountains-Fremont Valley Management Area, by requiring a user education orientation program session developed in consultation with local jurisdictions and a permit to access this area. This was adopted as a trial measure to assess its effectiveness to minimize resource impacts in the area. Other measures implemented included substantial fencing on major through routes and restoration of non-designated routes. In the intervening years, the use of this strategy has come under review. Under this plan amendment, the permit system in the Rand Mountains-Fremont Valley Management Plan is being considered for elimination and replacement by alternative compliance strategies, based on operational experience,.

PA X: Modify Stopping and Parking Limitations

The CDCA Plan MVA Element specified that stopping, parking, and camping along routes of travel is limited to within 300 feet of the route. The 2006 WEMO Plan modified these parameters to further limit stopping and parking in DWMAs, to within 50 feet of the route and camping within DWMAs would need to occur adjacent to routes in previously disturbed areas. BLM is now considering alternatives that would allow the 300-foot planning area-wide limitation to be changed, and clarify camping limitations, to minimize impacts from the route network on a planning area-wide basis.

PA XI: Livestock Grazing Program Modifications in desert tortoise habitat

The 2006 WEMO Plan modified the CDCA Plan Livestock Grazing Element to provide for additional species conservation and desert tortoise recovery, by making livestock grazing unavailable or further restricting grazing in DWMA and other special status species habitat. Under this plan amendment, CDCA Plan Livestock Grazing Element would be further modified to provide for additional species conservation and desert tortoise recovery in DWMA, CHU, other desert tortoise habitat, and to enhance ecosystem functions.

2.1.3 Implementation-Level Decisions

LUP-level decisions establish the decision space for transportation access implementation decisions. Implementation-level strategies include the following:

- Activity plans for each TMA include;
  - Specific objectives, strategies, and priorities for action;
  - On-the-ground access upgrades or modifications other than route designations;
  - The adopted route network; and
  - Actions to implement all elements of the activity plans and of supporting implementation plans.
- Supporting implementation plans which may involve one or multiple activity plans, such as monitoring, law enforcement, and rehabilitation plans.
- Mechanisms for changes within the scope of the activity plan objectives.

The proposed transportation and travel network integrated into each of the activity plans will identify routes, trails, and primitive trails on public lands outside of OHV Open Areas that meet the goals and objectives of the LUP, consistent with 2006 WEMO Plan goals and objectives for the conservation of sensitive plant and animal species. The activity plans include the area-specific transportation networks and associated strategies for the management of access on public lands within the WEMO Planning area outside of OHV Open Areas. The specific motor-vehicle route network that is ultimately adopted in any specific area will depend on many factors, including the LUP framework and activity plan goals and objectives, feedback from the public and other interested parties, and the specific strategies selected to minimize impacts to 43 CFR 8342.1 designation criteria and to other resource values.

2.1.4 Process for Development of Transportation Network Alternatives

The WMRNP is being undertaken, in part, to complete the required Transportation and Travel Management (TTM) planning process for the WEMO Planning area.

As discussed in BLM's TTM Handbook (H-1342-1), every acre of BLM-managed public land must be designated as "Open", "Closed", or "Limited" Areas for OHV use. These area designations were made for the entire WEMO Planning Area in the CDCA Plan. As part of the planning area's TTM planning efforts, each individual transportation linear feature within that framework must also be designated as either:

- A Road, Primitive Road, or Trail that is part of the designated travel network; or
- Transportation Linear Disturbance (not part of the travel network).

Within the designated travel network, individual linear features are also further designated as either "Motorized", "Non-Motorized", or "Non-Mechanized". The travel network alternatives developed for evaluation in the WMRNP consist of different combinations of the "Motorized", "Non-Motorized", "Non-Mechanized", and "Transportation Linear Disturbance" designations, as needed to meet different access and resource protection objectives, as described in Section 2.2 above.

The required process in the TTM Handbook includes mandatory planning-level decisions, optional delineation of TMAs, and then implementation-level decisions, which can be made concurrent with the planning-level decisions, but must be completed within five years following the completion of the applicable LUP amendment. The general outline of the process is as follows:

- OHV Area Designations (mandatory planning-level decision);
- Identification of Travel Management Areas (optional planning-level decision);
- Designation of the travel management network consisting of roads, primitive roads, and trails (mandatory implementation-level decisions), and identification of other linear features as transportation linear disturbances.

In 43 CFR 8342.1, the preamble and the four components require designation of public lands and routes as open, limited, or closed based on protection of resources of the public lands, safety of all users, and minimization of conflicts among the various uses of the public lands, and in accordance with the following designation criteria:

a) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.

b) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats;

c) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.

d) Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect natural, esthetic, scenic, or other values for which areas are established. (Note: "Natural areas" and "primitive areas" are not terms used by BLM and thus these factors do not apply).

The above criteria served as the basis for identifying resources to be considered and establishing thresholds to trigger measures to minimize impacts for each linear feature identified in the current inventory under each alternative. A detailed description of each step of the route designation process, including the current status and future plans, is provided in the subsections below.

OHV Area Designations

The designation of all acreage as Open, Limited, or Closed to OHV use is required as part of the Land Use Planning (LUP) process for each planning area. The CDCA Plan, which includes the WEMO Planning area, includes OHV area designations. No changes to these designations were proposed in the 2006 WEMO Plan, and none are being proposed in this current plan amendment effort.

Designation of Travel Management Areas

Designation of TMAs is an optional tool that BLM Field Offices can use to facilitate their overall TTM process. The designation of TMAs is a land use planning-level decision that must be addressed in the applicable LUP or amendment, which in this case would be an amendment to the 2006 WEMO Plan and Elements of the CDCA Plan for the WEMO Planning Area.

In the WEMO Planning Area, the feasibility of establishing TMAs and using them to facilitate TTM planning was evaluated as a result of the scoping process. Following the initial scoping meeting in September 2011, BLM held eight travel designation workshops within the identified TMAs, with the intention of conducting additional scoping that focused on the particular uses, resource issues, and areas of controversy that are specific to each TMA.

One purpose of the current planning effort is to establish TMAs as part of the Motorized Vehicle Access Element of the CDCA Plan. The BLM has identified three Alternatives related to establishment of TMAs, including:

- Alternative 1: No Action, which would include no TMAs being established;

- Alternatives 2 and 3: Establishment of eight TMAs, as developed during the scoping process; and
- Alternative 4: Establishment of nine TMAs, based on additional analysis following the scoping period.

Identification of Sub-Regions

Similar to the designation of TMAs, the BLM's evaluation of public comments received during the scoping process led to the definition of sub-regions that were later used to facilitate the analysis of impacts and identification of route network alternatives. As the public comments were analyzed to identify issues, common issues were found to be grouped geographically based on proximity to population centers, topographical and geologic setting, presence of sensitive resources, historical land uses, and other characteristics. These areas were found to be similar to the geographic boundaries used by BLM's rangers to facilitate law enforcement efforts, and comprise 36 sub-regions throughout the WEMO Planning area. Based on the issues and similarity to BLM's law enforcement boundaries, BLM staff chose to evaluate the existing route network and develop route network alternatives on a sub-region basis. The 36 sub-regions are defined in Table 2.1-3, and shown on Figure 2.1-1.

There are some distinct differences in the establishment of TMA's and sub-regions. TMAs are planning decisions used to establish common objectives and coordinate management actions throughout an area. The sub-regions were used as a tool to facilitate resource-specific analysis, but were not intended to act as administrative units for establishing land use planning objectives and coordinating management actions.

Table 2.1-3. Summary of WEMO Planning Area Subregions Used to Support the Route Network Analysis and Development of Draft Implementation Strategies

Sub-Region	Indicator on Maps	General Location
Broadwell	BL	South third of proposed TMA 1, bounded by Highway 40 on south, Tonapah &Tidewater RR on the east, Newberry Springs to west, Hidden Valley Rd to north.
Afton	AC	North third of proposed TMA 1, bounded by Interstate 15 on north, Hidden Valley Rd on south, Preserve/T&T east boundary, Newberry Springs west boundary.
Barstow	BA	West third of proposed TMA 1; directly east of Barstow, north boundary Hwy15, south boundary Hwy 40. Majority land private, mixed development, military base, railroad, agriculture.
Darwin	DA	Northern end of proposed TMA 2, bounded by Hwy. 190 on the north, Death Valley NP on the east, China Lake NWS on the south, and Coso Range Wilderness on the west.
Sierra	SI	Western half of proposed TMA 2, bounded by CDCA boundary and Hwy. 190 on the north, China Lake and Darwin Sub-region on the east, Hwy 178 on the south, and the Inyo NF and CDCA boundary on the west.

Table 2.1-3. Summary of WEMO Planning Area Subregions Used to Support the Route Network Analysis and Development of Draft Implementation Strategies

Sub-Region	Indicator on Maps	General Location
North Searles	NS	Northeastern end of proposed TMA 2, bounded by the Slate Range Crossing on the north, the ridge top of the Slate Range separating Searles Valley from Panamint Valley on the east, Township line 26S on the South, and China Lake NWS on the west.
South Searles	SS	Southeastern end of proposed TMA 2, bounded along Township line 26S on the north, China Lake NWS on the east, Randsburg Wash Road on the south, and China Lake NWS on the west.
Joshua Tree	JT	Southeastern most portion of BFO; dry desert lands rise to the south from Highway 62. Joshua Tree NP. South boundary west is 247.
Wonder Valley	WV	North east third of proposed TMA 3, open valley, lightly scattered residential; between Hwy 62 & 29 Palms Marine Base
Rattlesnake Canyon	RC	South center field office; desert uplands around east-northeast base of San Bernardino Mountains. West boundary is Hwy18.
Juniper Flats	JF	Southwest corner BFO; borders Hwy18 on east, SBNF to south, Mojave River on west & Hwy 247 to north.
Morongo Valley	MV	Center-southernmost portion of BFO, centered around town of Morongo Valley; area at eastern base of San Bernardino Mountains, between San Gorgonio Wilderness & PSC.
Needles South	NE	Northwest corner of NFO. N boundary Route 66 & Hwy40, S boundary Cleghorn Lakes Wilderness; W boundary 29 Palms Marine Base, E boundary Amboy Rd.
Pisgah Crater	PC	Center east portion of BFO. S boundary is 29 Palms Marine Base, boundary I40; W boundary is Powerline Rd., E boundary 2.5 miles west of Ludlow.
Jawbone	JB	Northern end of proposed TMA 4, bounded by Hwy 178 on the north, Hwy 14 on the east, Township line 31S on the south, and the CDCA boundary on the west.
Middle Knob	MK	Central section of proposed TMA 4, bounded by Township line 31S on the north, Hwy 14 on the east, Kern and Los Angeles county lines on the south, and the CDCA boundary on the west.
Lancaster	LA	Southern area of proposed TMA 4, bounded by Highway 58 on the north, San Bernardino county line on the east, Angeles NF on the south, and the CDCA boundary on the west.
Fremont Peak	FP	Northwest corner of BFO; N boundary Ridgecrest OF, W boundary Hwy395, S boundary Hwy58 & BNSF, E boundary Harper dry lake.
Black Mountain	BM	Northwest portion, east of and similar to Fremont peak. N boundary Ridgecrest, China Lake, W boundary Fremont Peak, S boundary Hwy 58 & BNSF, E boundary Coolgardie
Harper Lake	HL	North central portion of proposed TMA 5. Wide expansive open valleys, low hills, Harper dry lake.
Coolgardie	CG	Also north central portion proposed TMA 5. Softer & rounded landscape, between Ft Irwin to north & City of Barstow to south; Calico to east & Black Mountain to west.
Mitchel Mountains	MM	Center of BFO, south center portion of proposed TMA 5. Small pocket of low rugged mountains border north side of Barstow City.

Table 2.1-3. Summary of WEMO Planning Area Subregions Used to Support the Route Network Analysis and Development of Draft Implementation Strategies

Sub-Region	Indicator on Maps	General Location
Calico Mountains	CM	Central portion of proposed TMA 5. Borders I15 on south, Ft. Irwin Rd to west & north, Alvord Mountains to east.
Cronese Lake	CL	North eastern portion of proposed TMA 5. Borders I15 on south, Ft. Irwin to north; west from Coyote Dry Lake east to almost Baker.
Edwards Bowl	EM	Pocket area north of El Mirage, west of Hwy395, east of LA county & south of Edwards.
Kramer Hills	KH	West center portion of BFO and center of proposed TMA 6. West boundary is Hwy395 & east is Helendale Rd; north boundary is Hwy59 & south boundary is Silver Lakes.
Victorville	VV	Area west of the Mojave River, and east of the Los Angeles County/San Bernardino County boundary.
Iron Mountain	IM	Area south of Hwy58, east of Helendale, and north of Route 66.
Ridgecrest	RI	Northeastern portion of proposed TMA 7, including the community of Ridgecrest, bounded by China Lake NWS on the north and east, Golden Valley Wilderness on the south, and Hwy 395 on the west.
El Paso	EP	Northwestern portion of proposed TMA 7, bounded by Hwy 178 on the north, Hwy 395 on the east, Garlock and Redrock-Randsburg Road on the south and Hwy 14 on the west.
Rand	RA	Southwestern portion of proposed TMA 7, bounded by Garlock and Redrock-Randsburg Road on the north, Hwy 395 and the Kern/ San Bernardino county line on the east, Hwy 58 on the south, and Hwy 14 on the west
Red Mountain	RM	Southeastern portion of proposed TMA 7, bounded by Golden Valley Wilderness and Township line 29S on the north, China Lake NWS on the east, Cuddeback Lake Road, Hwy's 395 and 58 on the south, and the Kern/San Bernardino county line on the west.
Stoddard Valley	SV	Area between Victorville & Barstow, south of Hwy15; east boundary Hwy247, west boundary Mojave River.
Ord Mountains	OM	Nearly geographical center of field office, center north of TMA. West boundary Hwy247, east boundary Camp Rock Rd, north boundary I40 & Bartow, south is Lucerne Valley
Newberry Rodman	NR	TMA south of Hwy40 and north of Johnson Valley OHV Area; Camp Rock Rd is the west & SW boundary; east & NE boundary is powerline.
Johnson Valley	JV	Most of TMA includes Johnson Valley OHV Area and public lands as far south and west as Hwy247.

Designation of Travel Network

Implementation-level decisions include the designation of individual roads, primitive roads, and trails as part of the designated travel network, as well as designation of transportation linear disturbances. Roads, primitive roads, and trails to be included in the network would include motorized, non-motorized, and non-mechanized routes. Also, non-mechanized routes in wilderness or other OHV Closed Areas may be included in the network, consistent with current wilderness policies, plans, and minimum tool standards. Travel management plan decisions will

ultimately identify selection of management prescriptions for individual routes in the network, including signage; speed limits; stopping and parking restrictions; or restrictions based on season, time of day, or weather.

The history of route designations in the WEMO Planning area was discussed briefly in Chapter 1 and is further discussed in Appendix E. Route designations that were evaluated and adopted in the 2003 Environmental Assessment for the Western Mojave Desert Off Road Vehicle Designation Project were the starting point for the analysis in 2006 WEMO Plan, and the adopted 2003 network, with some modifications as a result of public comment on the 2003 WEMO Plan DEIS, are proposed and analyzed in the 2005 WEMO Plan FEIS. The 2006 WEMO Plan ROD approved the FEIS route designations, with some minor modifications. The 2006 WEMO ROD was vacated by the Court's Summary Judgment order, which required BLM to reconsider the route designations, consistent with the 43 CFR 8342.1 regulations.

In response, BLM has re-developed the route designation process in accordance with the TTM Handbook. The BLM implemented the following steps to assure a coherent network that includes route minimization:

A. Conduct Inventory and Establish the Baseline

- The initial basis of the route network inventory was the 2006 WEMO Plan inventory, as corrected per the errata maps ordered by the Court, and provided by BLM.
- This initial inventory was from multiple sources, and its accuracy and completeness varied depending upon the source. BLM then updated the inventory of linear features by reviewing existing features and tracing additional features from USDA's one meter-resolution National Agriculture Imagery Program (NAIP) aerial photography into the Ground Transportation Linear Features (GTLF) geospatial database. The inventory consisted of the 2006 WEMO Plan network (as corrected and adjusted by the Court), which serves as the No Action Alternative, and other linear features that currently exist on the ground, to ensure that all existing features were included in the analysis. Note that this inventory reflects the on-the-ground features existing as of 2013[1], and thus includes features that were developed after 1980. It also reflects substantial improvement in technical accuracy—many of the previously unrecognized features are simply the result of better photography since 1980 and were not detected at that time, and many others are the result of subsequent land acquisitions and permitting activities.
- This data was checked against field surveys in 2012 conducted to sign and monitor the open route network.
- The 2012-2013 inventory is intended to include all routes that still have some evidence of recent past or current use. Some routes may be included where recent use no longer is evident as a result of active or passive reclamation, and the inventory will be updated as new on-the-ground information confirms use levels. A sample review of earlier (2005) and later (2013) aerial photographs indicates that the inventory represents a combination of previously known and undocumented routes that have

[1] Aerial data is from 2009, and on the ground data is from 2012 and 2013. Aerial data will be updated once after the Draft Plan is released.

been on-the-ground for at least the last 8 years, and the inventory is relatively stable (See Appendix E).

- The BLM identified and collected existing resource data, in Geographic Information Systems (GIS) format, to be considered based on the requirements of 43 CFR 8342.1, the Court's Summary Judgment and Remedy Order, and scoping comments.

B. Document Analytical Process

- BLM developed an Access database that was used to document the potential route segment baseline, the resources associated with each route segment, the preliminary route network recommendations resulting from application of the threshold analysis using GIS, the public input and other non-GIS information captured for each route segment, and the rationale for the final staff recommendations for each preliminary alternative (e.g., documenting instances where professional judgement or other route-specific or resource-specific information may have overridden the GIS based analysis).
- Once alternative development was complete, the Access database was used to generate an analysis of impacts from the route network under each alternative to 43 CFR 8342.1 criteria and non-criteria resource values.
- The Access database facilitates review of the coincidence between a route segment and one or more potential resources to clarify or quantify that coincidence, allows entering additional known route use or resource information that may affect the route network recommendation, and provides for the assignment of specific minimization and mitigation for each route segment within each alternative, and modification of the preliminary GIS-developed recommendation, where appropriate.
- This database is used to document adjustments to specific routes in the network based on identification and analysis of new issues and needs.

C. Identify Mechanisms to Use for Alternative Development

- The BLM identified the No Action Alternative, which, based on the Remedy Order, is the route network currently in use until a revised network is approved.
- The BLM identified specific resource values (e.g. riparian areas) that could adequately identify potential resource impacts based on the 43 CFR 8342.1 designation criteria associated with the network and with individual routes and linear features.
- The Network-wide minimization strategies were identified for each alternative. The specific parameters for the following were elements of these strategies:
  - Stopping, parking and camping parameters were modified, specific to each alternative, and used to minimize impacts and focus the remaining impacts from criteria resources.
  - The approach to routes that had been designated as "Closed" in the 2006 WEMO Plan decision was determined for each alternative, subject to route-specific review.
  - The approach to routes which were undesignated in the 2006 WEMO Plan decision (i.e., features that were added in 2013 as a result of the GTLF inventory update and

the on-the-ground signing and monitoring process) was determined for each alternative, subject to route-specific review.

- The approach to competitive-event routes outside of OHV Open area.
- The approach to designated parking, staging and camping areas in sensitive locations.

- Staff identified preliminary resource thresholds that would identify the potential need for minimization strategies and mitigation of resource impacts on the network and on each specific route segment (referred to herein as minimization straegies and mitigation measures), for criteria in 43 CFR 8342.1, considering the network strategies. Some of the thresholds were based on a distance between the route and the resource (e.g. route within 50 feet of a riparian area), while others were based on co-location of any portion of the route with a resource (e.g., route within a desert wash). In most cases, the comparison of the route to the resource was based on a GIS analysis. In cases where the resource data were not available in GIS, such as tribal areas, the comparison was done based on the resource specialists' working knowledge of the local area, supplemented with additional field visits and tribal consultations, as needed.
- The BLM developed objectives to be considered as part of the framework for the route network alternatives.
- BLM adjusted the thresholds by alternative, reflective of the objectives and the specific network thresholds for each alternative.

D. Issues and Assumptions Used to Develop Alternatives

- All action alternatives utilize the 43 CFR 8342.1 designation criteria, as well as factoring in the issues of network connectivity, pertinent resource issues not identified in the 43 CFR criteria, and information on the use of the network and of specific routes, including information provided by the public.
- The specific initial minimization strategies and mitigation responses in each alternative vary, and the threshold for closure as the initial minimization strategy, is lower for Alternative 2 (closure is more readily triggered) than in Alternative 3 (closure is less readily triggered with mitigation more readily triggered). In Alternative 4, the selection of either initial minimization through closure or other mitigation measures, as a response to conflicts was more sensitive to existing uses and needs.
- Minimization strategies and mitigation measures fall into three categories: (1) network; (2) network and site or use-specific; and (3) designation changes to a route segment or entire route.
- Network minimization strategies minimize impacts of the network on a network-wide basis. Identifying some of theses at the outset of the process helped focus other potential minimization and mitigation.
- The site- and use-specific mitigation responses were, and included a range of mitigation actions, depending on the sensitivity and location of the conflict. These are outlined in Section 2.3. Site-specific evaluation was sometimes necessary to further clarify appropriate strategies.

- Designation changes to minimize impacts included route closure or further limitation of motorized and other uses of a route, by vehicle or other travel type, by who would be able to use the route, or by season of use. These terms are defined in the glossary. For the purposes of this analysis, the following assumptions were made with respect to vehicle use:
  - Narrower routes (single-track motorcycle), then quad routes, are considered less impacting than 4-wheel drive routes;
  - Two-wheel drive improved routes are considered less impacting than 4-wheel drive routes, other factors being equal;
  - Non-motorized routes and primitive trails (in Wilderness Study Areas) are considered less impacting than motorized routes;
  - Non-mechanized routes are considered less impacting than non-motorized routes; and
  - Hiking routes are considered less impacting than non-motorized routes and primitive trails.
- Also, the following assumptions were made with respect to users:
  - General public use routes are less impacting than competitive event routes and competitive event corridor routes;
  - Authorized user routes are generally less impacting than routes open to the public;
  - Administrative user routes are less impacting than either authorized or public-use routes; and
  - Seasonal routes are less impacting than motorized routes and may be less impacting than other routes and trails.
- Finally, an assumption was made that limiting access to a class of routes not previously available to the public and that would not affect overall network continuity and accessibility, is one reasonable network-wide minimization strategy, whether or not a specific route or route-segment triggered a site-specific review for minimization under the 43 CFR 8342.1 designation criteria. This assumption is based on the objectives of each alternative, and taking a regional approach to minimizing impacts and developing mitigation or conservation measures for the planning area. Limiting access to a class of routes leads to long-term reduction of disturbed lands and surfaces in the desert, so to enhanced natural communities and habitat continuity, to improved watersheds, and to improved air quality in a non-attainment area; other benefits may accrue by minimizing cumulative effects to resources that are based on the relationship of many impacts to the number of route miles, as discussed in Chapter 4. Therefore, class-wide minimization strategies are appropriate to apply to undocumented routes that were not included in the 2001-2002 (or other, e.g., 1985-1987) inventories or which were already closed or limited in the 2006 WEMO Plan under one or more alternatives. Under all alternatives, additional route-specific mitigation measures that are selected are reflective of the degree of conflict.

E. Summary of the Alternative Development

The minimization triggers and strategies that were developed by alternative are included in the alternative-specific discussions (see sections 2.3 and 2.4).

1. The most current resources data was overlain on the 2013 inventoried routes to create a computer-generated Geographic Information Systems (GIS) layer and BLM ran a comparative GIS analysis of the inventoried route segments to identify specific locations of potential resource impacts, based on preliminary network wide and resource-specific minimization triggers.
2. Three levels of network-wide measures were identified to focus and minimize impacts, depending upon the alternative: a) No Action; b) Alternative 2; and c) Alternatives 3/4.
3. BLM staff reviewed the results of the GIS analysis and other resource comparisons to assure that the thresholds would adequately identify relative impacts to sensitive resources, adjusted accordingly, and ran the analysis again integrating the various network-wide and resource-specific potential parameters to identify sensitive impacts, and to identify potential approaches to distinguish responses to the impacts.
4. Based on the types of impacts to sensitive resources, route-specific conflicts with the 43 CFR 8342.1 criteria, the objectives of the each alternative, and the overall resource goals of the WEMO Planning area, the BLM refined the preliminary triggers to establish the framework for identification of the initial route network alternatives that would incorporate standard minimization strategies (e.g., closures and route limitations) and also identify routes that may need additional mitigation measures or other minimization strategies.
5. For Alternatives 2 and 3, a preliminary alternative was then generated through the GIS exercise that included initial assignment of a preliminary designation and sub-designation of each route segment based on resource impacts. Maps of each of the subregion networks in a particular travel management area for each of the alternatives were generated. These maps were integrated with additional resource, recreational, and other information to provide context for the route-specific review and development of the alternative.
    - Each feature was then reviewed and additional site-specific information applied. In addition, the level of conflicts and issues was assessed.
    - Initial Connectivity Needs were identified where the thresholds result in routes with some route segments recommended for closure and other segments recommended to stay open.
    - Conflicts in use were identified where the resulting preliminary alternative results in routes where one or more of the alternative objectives would recommend consideration of different approaches to minimization and mitigation.
    - Conflicts in analysis were identified where the resulting preliminary alternative results in a route segments that include different approaches to minimization and mitigation.
    - Connectivity issues and conflicts were addressed based on the relative sensitivity of affected resources, known uses and needs of the route segment, the objectives of the

alternative, additional resource and recreation goals for the area, where identified, and other information from staff, other agencies, and the public, to determine if a feature is included within the alternative travel network as "Motorized", Non-mechanized, Non-motorized, or else closed and classified as a Transportation Linear Disturbance, and any appropriate additional mitigation measures are identified.

- Specific mitigation strategies were identified by resource, as needed.

6. BLM staff then began the development of the alternative from the preliminary GIS alternative. The maps with the initial designations were reviewed by BLM staff, and adjusted based on the identified conflicts and issues, public or other agency input, site-specific knowledge, and to ensure that the network would be complete and link to adjacent subregions seamlessly to create a travel management area network.

7. For No Action and Alternative 4, Steps 6 and 5 were reversed in order. BLM began with the No Action alternative. The No Action alternative was adjusted only to correct errors and add known rights-of-ways that had been overlooked. Alternative 4 was then developed from the No Action alternative, as corrected. Alternative 4 factored in additional site-specific knowledge, conflicts and issues, public input from scoping and from the subsequent WMRNP Desert Advisory Council (DAC) Subgroup recommendations to the BLM District Manager (the reports are posted on the DAC website at http://www.blm.gov/ca/st/en/info/rac/dac/wmrnp.html), and input from other agencies and from staff, to develop the preliminary Alternative 4 network. Then, as with alternatives 2 and 3, a GIS exercise generated maps in each subregion within a travel management area that showed remaining areas of conflict. The GIS exercise was used for No Action to identify remaining conflicts and issues as well, as a basis of comparison with the other alternatives. No changes were made. Alternative 4 maps indicated which of the preliminary routes and route-segments in the initial Alternative 4 would need site-specific review for additional minimization strategies (closure or use limitation) and mitigation measures, and other route options to address unmet needs and continuity of the network where conflicts had been identified.

8. The preliminary identification of a route under all alternatives was modified to (1) complete the network, (2) ensure inclusion of authorized rights-of-way that were known, (3) based on other staff or public input, and (4) based on level of sensitivities. Where conflicts were identified during these changes, additional minimization strategies or mitigation measures could be identified for the route. Where sensitivities were known not to exist (false positives) or to be less problematic that the GIS indicated, routes may have been opened.

9. Input on specific types of uses other than motorized use was taken into consideration in development of the alternatives, including non-motorized and non-mechanized trails, and motorcycle routes. One or more alternatives may have been adjusted, based on the overall goals of each alternative, to provide a reasonable range of alternatives for routes that are particularly sensitive, in consideration of network continuity, in consideration of different resource values, or for routes that received a wide range of feedback from the public during scoping.

10. For routes ending at a jurisdictional boundary or private property, the following preliminary designations would generally be made, subject to agency consultation, the need for a reasonable range of alternatives, and potential mitigation measures:

    - For the Department of Defense, the route would be identified as a transportation linear disturbance (closed) from the last intersection, unless the route leads to an official gated access.
    - For the National Park Service, US Forest Service, California Parks, or California Fish and Wildlife, route access would be matched to the corresponding designation by the other jurisdiction, unless further minimized based on the designation criteria, or provided site-specific input from the agency. For example if the route on US Forest Service land was motorized, BLM would allow for connection by identifying the route as motorized, or, if for an authorization, limited. Otherwise, the route would be identified as a transportation linear disturbance (closed) from the last intersection.
    - For a route entering private property or land of the California State Lands Commission, the route would be designated as motorized to allow for access to the private parcel, to the extent feasible with current network, consistent with a review of the designation criteria. If the property boundary was known to be fenced, or information was available that BLM was contacted by owner to not provide access, the route was designated as a transportation linear disturbance (closed) from the last intersection, consistent with network connectivity in at least one alternative, consistent with the criteria.
    - For a route that runs adjacent to other jurisdictions or private property, no specific approach was taken. These routes were addressed based on site-specific factors and the objectives of each alternative.
    - For a route which intersects a national designated trail, if the route provides access to a trailhead, it was identified as motorized, unless there is no parking or staging area or the route is located a distance from the designated trail, consistent with the designation criteria. If the route conflicts with trail use, such as traveling parallel to the trail, then it was generallyidentified as a transportation linear disturbance (closed). These designations may be adjusted in the FSEIS, to achieve consistency with the draft DRECP Plan setbacks from designated trails (see http://www.blm.gov/ca/st/en/prog/energy/DRECP/policy.html).

11. After the route-specific review, these administrative draft alternative designations went through a preliminary impact analysis process and additional adjustments may have been made based on the results of the initial analysis of impacts and the overall goals of the alternative.

12. The results of the analysis are documented in an Access Table by route or route segment, referred to as WEMO ID. These WEMO IDs were used to break apart routes between intersections and where potential changes in resource conflicts changed to provide more site-specificity in identifying conflicts, identifying resource specific mitigation measures, and more flexibility during the alternative development process. Each WEMO ID is cross-referenced back to the route name, and includes data on the

route, and for each alternative who inputted data, how the route is being used, resource conflicts, recreational assets, public comments, the alternative designation (transportation and travel uses) under the alternative, and whether mitigation measures are identified.

F. Alternatives in the Draft Supplemental EIS

- The results of this process were used to generate administrative draft alternative maps, and reviewed to verify that the resulting route network within each alternative was viable, meet the objectives of the alternative, and was consistent with the 43 CFR 8342.1 criteria, the goals and objectives of the CDCA Plan, as modified herein, and the additional goals and objectives of the 2006 WEMO Plan.
- Adjustments were made in highly sensitive areas based on issues that were not identified through the GIS analysis and preliminary review.
- Management reviewed staff recommendations, made adjustments to alternatives, and selected the preferred alternative.

The result of this process has been the development of different route networks that include the current route network (Alternative 1, or the No Action Alternative), and a network that achieved the objectives of the Resource Conservation Enhancement Alternative (Alternative 2), a Public Lands Access Alternative (Alternative 3), and a Community Access Alternative (Alternative 4).

Resource-Specific Minimization Strategies and Mitigation Measures

The BLM developed potential network-wide minimization and mitigation which varied based on the alternative-specific objectives. The network-wide strategies addressed area and route-specific impacts, and were the first response to the 43 CFR 8342.1 criteria to minimize impacts in the designation of routes, whether or not additional route-specific measures would be applied. The network-wide strategies are outlined under each alternative in Section 2.3.

Table 2.1-4, below, provides a list of resource-specific concerns and has site and/or route specific measures that may be implemented on a case-by-case basis as determined appropriate by the BLM, in lieu of route closure, other use limitation, or network-wide minimization strategies, and in addition to signing and route maintenance, where appropriate. These would apply for route segments designated as open with minimization and mitigation. The mitigation actions listed below are examples of potential actions that may be taken when determined appropriate for the particular location and resource/concern that is present along with determined cause(s). The mitigation measure(s) employed will be based on a case-by case analysis, based on the strategies in the travel management plans. This is not a comprehensive list and additional adaptive management actions may be implemented as needed to address conflicts as they occur or increase, and based on changing use patterns. The specific measure(s) employed may require additional site evaluation, and are included in the Access Table as they are identified. The Access Table can also be used to track their completion.

In addition to these actions, the BLM will continue to monitor the WEMO Plan Area and as additional information becomes available, the BLM will continue to evaluate the designated road and travel network to ensure it continues to meet the objectives of 43 CFR 8340, the applicable land use plan goals and objectives, the pertinent travel management plan, and applicable laws

and regulations. Route designations or minimization and mitigation actions in this plan could be modified based on monitoring results, or to accommodate land use proposals, following the appropriate analysis under NEPA.

Table 2.1-4. Potential Resource-Specific Minimization and Mitigation Actions

Resource Concern	Possible Minimization and Mitigation Action(s)
Soil Resources	• Select alternative route to minimize off-route disturbance; • Implement seasonal restrictions, designated as motorized only by permit, or designate closure under certain conditions (such as when route is wet); • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Install access type restrictor; • Install/Implement Erosion Prevention Best Management Practices, Re-align route to minimize impact to environmentally sensitive area; • Restrict stopping/parking/camping; • Add parking/camping area; • Install barriers or fencing; • Narrow the route; • Construct and/or Install Educational information such as signs; • Monitor the route for signs of increasing impacts, and • Determinate that no additional site-specific minimization and mitigation measure is needed based on area or site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).
Air Quality	• Modify access to direct use to areas with a lower impact; • Harden access route; • Apply water or similar application during high use periods; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Install/Implement Erosion Prevention Best Management Practices; • Install signs; and • Determinate that no additional minimization and mitigation measure is needed based on area or site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).
Noise	• Modify access to a less impacting or more controlled designation; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Construct and/or Install Educational information such as signs; • Install speed bumps or similar mechanisms to slow traffic through an area, and • Determine that no additional minimization and mitigation measure is needed based on area or site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).

Table 2.1-4. Potential Resource-Specific Minimization and Mitigation Actions

Resource Concern	Possible Minimization and Mitigation Action(s)
Cultural Resources – including Tribal Areas	• Modify access to a less impacting designation; • Install access type restrictor; • Re-align route to avoid environmentally sensitive area; • Restrict stopping/parking/camping; • Install barriers and maintain or upgrade existing barriers; • Prohibit Special Recreation Permit use; • Remove Attractants; • Construct and/or Install Educational information such as signs or kiosks; • Install step-overs; • Narrow route for cultural concerns; • Fencing or exclosure of a cultural resource; • Monitor the route for signs of increasing impacts to a sensitive area, and • Determine that no additional minimization and mitigation measure is needed based on feature or site evaluation pursuant to 36 CFR 60 • Determine that no additional minimization and mitigiation measure is needed based on field identification (i.e ground truthing of GIS data indicates no resource is present, no resources are impacted or existing minimization and mitigation is adequate).
Grazing	• Install gates; • Install fencing; • Install Signs; • Install barriers and maintain existing barriers; • Construct or Install Educational information such as signs; • Install tortoise friendly cattle guards; and • Determination that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).
Safety	• Remediate abandoned mine land features or other safety hazards; • Install fencing; • Install Signs; • Temporarily close routes while safety issues are addressed; • Install barriers and maintain or upgrade existing barriers; • Limit Special Recreation Permitted Use; • Remove Attractants; • Monitor the route for signs of increasing impacts to a sensitive area, and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).

Table 2.1-4. Potential Resource-Specific Minimization and Mitigation Actions

Resource Concern	Possible Minimization and Mitigation Action(s)
Lands inventoried for wilderness characteristics	• Remove Attractants; • Modify access to a less impacting designation; • Prohibit Special Recreation Permit Use; • Install Signs; • Install barriers; • Maintain existing barriers; • Install step-overs; • Monitor the route for signs of increasing impacts to a sensitive resource, and • Determine that no additional minimization and mitigation measure is needed (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).
Tortoise Habitat - DWMA	• Install Wildlife Bypass; • Install Wildlife Safety Zone signs; • Modify access to a less impacting designation; • Seasonal Use Restriction; • Install access type restrictor; • Re-align route to avoid designated area; • Restrict stopping/parking/camping; • Add parking/camping area; • Install barriers and maintain or upgrade existing barriers; • Remove Attractants; • Construct or Install Educational information such as signs; • Install fencing; • Narrow route; • Maintain berms so that they do not adversely impact the movement of desert tortoise; • Monitor the route for signs of increasing impacts to a sensitive resource, and • Determination that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).

Table 2.1-4. Potential Resource-Specific Minimization and Mitigation Actions

Resource Concern	Possible Minimization and Mitigation Action(s)
Riparian Areas	• Rehabilitate disturbance; • Modify access to a less impacting designation; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Install access type restrictor; • Re-align route to avoid environmentally sensitive area; • Restrict stopping/parking/camping; • Add parking area; • Install barriers and maintain existing barriers; • Remove Attractants; • Install Educational Construct such as installing signs; • Install step-over; • Install fencing; • Narrow route; • Install/Implement Erosion Prevention Best Management Practices; • Harden water crossing; • Seasonal closure during bird nesting season; • Monitor the route for signs of increasing impacts to a sensitive resource, and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).
Protected Vegetation Resources	• Restrict stopping/parking/camping; • Add parking/camping area; • Install barriers and maintain or upgrade existing barriers; • Remove Attractants; • Modify access to a less impacting designation; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Install access type restrictor; • Re-align route to avoid environmentally sensitive area; • Install barriers and maintain or upgrade existing barriers; • Construct or Install Educational information such as signs; • Install step-over; • Install fencing; • Narrow route; • Install/Implement Erosion Prevention Best Management Practices; • Monitor the route for signs of increasing impacts to a sensitive resource, and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate) .

Table 2.1-4. Potential Resource-Specific Minimization and Mitigation Actions

Resource Concern	Possible Minimization and Mitigation Action(s)
Protected Wildlife Resources	• Construct Wildlife Bypass; • Restrict stopping/parking/camping; • Add Install barriers; • Maintain existing barriers; • Remove Attractants; • Seasonal use restriction; and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).
Desert washes	• Re-align route to avoid environmentally sensitive area; • Install barriers and maintain existing barriers; • Remove Attractants; • Construct or Install Educational information such as signs; • Install step-over; • Install fencing; • Seasonal or complete closure; • Monitor the route for signs of increasing impacts to a sensitive resource, and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).
Golden Eagles – active nests	• Seasonal closure during nesting season; • Install access type restrictor; • Re-align route to avoid environmentally sensitive area; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Restrict stopping/parking/camping; • Install barriers; • Remove Attractants; • Construct or Install Educational information such as signs; • Monitor the route for signs of increasing impacts to a sensitive resource, and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).

Table 2.1-4. Potential Resource-Specific Minimization and Mitigation Actions

Resource Concern	Possible Minimization and Mitigation Action(s)
Mohave Ground Squirrel - core areas	• Construct Wildlife Bypass; • Install Wildlife Safety Zone signs; • Modify access to a less impacting designation; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Install access type restrictor; • Re-align route to avoid designated area; • Restrict stopping/parking/camping; • Add parking/camping area; • Install barriers and maintain or upgrade existing barriers; • Remove Attractants; • Construct or Install Educational information such as signs; • Install fencing; • Narrow route; • Monitor the route for signs of increasing impacts to a sensitive resource, and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).
Wildlife Corridors	• Construct Wildlife Bypass; • Install Wildlife Safety Zone signs; • Modify access to a less impacting designation; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Install access type restrictor; • Re-align route to avoid designated area; • Restrict stopping/parking/camping; • Add parking/camping area; • Install barriers and maintain or upgrade existing barriers; • Remove Attractants; • Construct or Install Educational information such as signs; • Install fencing; • Narrow route; • Maintain berms so that they do not adversely impact the movement of desert tortoise; • Monitor the route for signs of increasing impacts to a sensitive resource; and • Determine that no additional minimization and mitigation measure is needed based on area evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).

Table 2.1-4. Potential Resource-Specific Minimization and Mitigation Actions

Resource Concern	Possible Minimization and Mitigation Action(s)
Springs	• Modify access to a less impacting designation; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Install access type restrictor; • Re-align route to avoid environmentally sensitive area; • Restrict stopping/parking/camping; • Add parking area; • Add or modify hiking trail access; • Install barriers and maintain or upgrade existing barriers; • Remove Attractants; • Construct or Install Educational information such as signs; • Install step-over; • Install barriers; • Narrow route; • Install/Implement Erosion Prevention Best Management Practices; • Seasonal closure during bird nesting season; • Monitor the route for signs of increasing impacts to a sensitive resource; and • Determine that no minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).
Rare and Special Status Plant Species	• Restrict stopping/parking/camping; • Add parking/camping area; • Install barriers and maintain or upgrade existing barriers; • Remove Attractants; • Modify access to a less impacting designation; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Install access type restrictor; • Re-align route to avoid environmentally sensitive area; • Construct or Install Educational information such as signs; • Install step-over; • Install fencing; • Narrow route; • Install/Implement Erosion Prevention Best Management Practices; • Monitor the route for signs of increasing impacts to a sensitive resource; and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).

Table 2.1-4. Potential Resource-Specific Minimization and Mitigation Actions

Resource Concern	Possible Minimization and Mitigation Action(s)
Multiple User Conflicts	• Modify access to a less impacting designation; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Minimize overlapping uses by separating in time or space, or through a permitting mechanism; • Add or identify alternative non-motorized or non-mechanized trail access; • Construct or Install Educational information such as signs; • Install step-over; • Monitor the route for signs of increasing impacts to a sensitive resource; and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate).
Visual Resource Inventory (VRI) Class	• Modify access to a less impacting designation; • Restrict stopping/parking/camping; • Install barriers and maintain or upgrade existing barriers; • Install/Utilize features to reduce visual impact; • Remove Attractants; and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate) .
ACEC	• Modify access to a less impacting designation; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Install access type restrictor; • Re-align route to avoid designated area; • Restrict stopping/parking/camping; • Add/Upgrade parking/camping area; • Install barriers and maintain or upgrade existing barriers; • Add or modify non-motorized trail access; • Remove Attractants; • Construct or Install Educational information such as signs and kiosks; • Install fencing; • Narrow route; • Monitor the route for signs of increasing impacts to a sensitive resource; and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate) .
Wilderness Study Area	• Modify access to a less impacting designation; • Limit the route to lower intensity use or prohibit Special Recreation Permitted use; • Install access type restrictor; • Restrict stopping/parking/camping; • Install barriers and maintain or upgrade existing barriers; • Remove Attractants; • Monitor the route for signs of increasing impacts to a sensitive resource; and • Determine that no additional minimization and mitigation measure is needed based on site evaluation (i.e., ground truthing of GIS data indicates no resource impact or existing minimization and mitigation is adequate) .

2.2 Land-Use Planning Alternatives

As discussed in Sections 2.1.1 and 2.1.2, each of the alternatives is composed of LUP-level decisions and implementation-level decisions. Implementation-level alternatives are outlined in Section 2.3 of this Chapter. Section 2.2 outlines plan-level goals and objectives for each alternative, which are plan-level decisions, and include both travel management and grazing program management. Network-wide travel management mitigation strategies may also be plan-level decisions, if they related to stopping, camping and parking, wash routes, and lakebeds. Although these are plan-level decisions in the CDCA, including the West Mojave Planning area, as they cover the entire planning area, they are reiterated in Section 2.3, because they can also be site-specific implementation decisions. They also provide one of the key minimization strategies for potential impacts from the route network. The Agency Preferred Land-Use Planning Alternative for both travel management and grazing management in the Draft SEIS is Alternative 3.

2.2.1 Land-Use Planning (LUP) Goals

General LUP Goals and Objectives Common to all Alternatives

All alternatives incorporate the CDCA Plan goal to provide for the use and access to public lands, and resources within the CDCA, including economic, educational, scientific, and recreational uses, in a manner which enhances, wherever possible—and which does not diminish, on balance—the environmental, cultural and aesthetic values of the desert and of its productivity, as identified in Sections 601 and 103 of FLPMA. The CDCA Plan recognized the sometimes complex and conflicting mandates that provide for both use and protection of a variety of public resources, and the key role of access across public lands. The Motorized Vehicle Access (MVA) Element of the Plan provides the overarching guidance for motor vehicle access for the entire CDCA, including the WEMO Planning area, to provide a system and set of rules governing access.

The adopted framework to update the MVA Element and specific travel management strategies would (1) limit conflicts and threats to sensitive resources, (2) respond to current and anticipated future transportation and travel needs, (3) provide appropriate recreational access, and (4) are consistent with the overall motor vehicle access goal of the 2006 WEMO Plan.

The Livestock Grazing Element of the CDCA Plan also provides overarching guidance. The goals of the CDCA Plan Livestock Grazing Element are to:

1. Use range management to maintain or improve vegetation to meet livestock needs and to meet other management needs set forth in the Plan.
2. Continue the use of the California Desert for livestock production to contribute to satisfying the need for food and fiber from public land.
3. Maintain good and excellent range condition and improve poor and fair range condition by one condition class through development and implementation of feasible grazing systems or Allotment Management Plans (AMPs). Adjust livestock use where monitoring data indicate changes are necessary to meet resource objectives.

The CDCA Plan also analyzed seven alternatives with respect to the number of livestock allotments, the livestock to be grazed on each allotment, the type of allotment (perennial,

ephemeral, or a combination), the amount of forage in each allotment dedicated to livestock, to wildlife, and to wild horses and burros, and the resulting livestock carrying capacity.

Key changes to the CDCA Plan Livestock Grazing Element made in the 2006 WEMO Plan (see pages 2-131-133 of the 2005 WEMO FEIS) include:

1. Adopt Regional Standards and Guidelines for the management of the grazing program. The adoption of Regional Standards and Guidelines are dependent upon the approval by the Secretary of the Interior.
2. Make the majority of ephemeral sheep/cattle grazing allotments in DWMA unavailable for grazing use, to include: Portions of the Buckhorn Canyon, East and West Stoddard, and Monolith-Cantil Allotments, and the entire Gravel Hills, Superior Valley and Goldstone Allotments.
3. Discontinue ephemeral grazing within cattle grazing allotments when forage is below 230 lbs. per acre (a change from the CDCA Plan 200 lbs. per acre threshold);
4. Discontinue the use of ephemeral grazing and temporary non-renewable grazing authorization within cattle grazing allotments located in DWMA;
5. Provide for voluntarily relinquishment of allotments located in DWMA and other special status species habitat, and, upon relinquishment, make such allotments unavailable for grazing.
6. Manage grazing in remaining active allotments consistent with the CDCA Plan Livestock Grazing Element goals and planning objectives adopted in the 2006 WEMO Plan, including additional objectives for management of grazing in active allotments within DWMAs and CHU, unless and until the specific allotments are proposed for change through plan amendment, either in this document or through future amendment.

These program strategies would apply under all alternatives. Changes proposed under action alternatives affect specific allotments under the various alternatives based on their status as active or inactive, and allotment boundary overlap with DWMA and CHU boundaries.

In addition, the following legislative changes were made subsequent to the 2006 WEMO Plan that would be incorporated under all alternatives to conform the CDCA Plan, as amended:

- Permanent relinquishment of the Lava Mountain and the Walker Pass Common Allotments' preference, elimination of grazing and reallocation of the AUMs in these two allotments from livestock forage to wildlife use and ecosystem functions under the authority of the 2012 Appropriations Act (Public Law 112-74).

All alternatives also recognize BLM's goals for National Landscape Conservation System (NLCS) areas. Facilities, including roads and range improvements, are only developed in sensitive areas where they are required for public health and safety, are necessary for the exercise of valid existing rights, minimize impacts to sensitive resources, or further the multiple use, sustained yield purposes for which the area was designated. New roads and facilities are evaluated and approved in the context of specific access needs and allotment plans rather than as an element of the overall land-use planning strategy for one or more alternatives.

General LUP Goals and Objectives Common to all Action Alternatives

Alternatives 2, 3, and 4 also propose to resolve access management conflicts between the 2006 WEMO Plan and the CDCA Plan, to meet the goals and objectives of the TTM process in the West Mojave to create travel networks that are logical and sustainable, to meet the increasingly diverse transportation, access, and recreational needs of the public in the context of the framework of FLPMA, and to address issues identified by the Court in its 2009 Summary Judgment and summarized in its 2011 Remedy Order (January 28, 2011, p.3-4).

All action alternatives incorporate the WMRNP purpose and need stated in Chapter 1 to update the MVA Element system and rules in Limited Access areas within the West Mojave Planning Area. These requirements reflect the broad scope and integration of transportation management, recognize appropriate levels of planning and types of uses covered, identify implementation decisions that can be made under this guidance, and capture the constraints specific to the planning area. To accomplish this, objectives include adopting additional transportation-specific broad scale interdisciplinary LUP-level planning decisions, developing specific Activity or Area Plans, and identifying specific implementation strategies in the Activity or Area Plans, or that are consistent with and tier from these plans in the future. Each action alternative would have the same general travel management goals and objectives, as follows:

- Provide reasonable, safe, and environmentally sound access for visitors, local residents, licensed and permitted activities, and property owners through coordination and collaboration on travel systems with other agencies, state and local governments and interested stakeholders;
- Maintain an accurate database of both open and closed routes for management purposes;
- Maintain a system that updates route designations as new decisions are made, for the production of current general, resource-specific, and user or recreation-specific Transportation Management Network maps;
- Manage OHV use to protect environmental and cultural resources, promote public safety, and provide OHV opportunities;
- Designate areas and routes where various types of OHVs are permitted or prohibited; and
- Adopt implementation plans to manage the route network and respond to changing conditions. Specific updates to implementation plans would be included as part of the Transportation Management Plans, if appropriate.

2.2.2 Alternative 1: No Action LUP-Level Goals, Objectives, and Strategies

The No Action alternative would incorporate all goals and objectives associated with motor vehicle access and grazing management currently contained in the CDCA Plan, and which were not modified in the 2006 WEMO Plan. The Motorized Vehicle Access (MVA) Element of the CDCA Plan goals below were not modified in the WEMO Plan in 2006. They include:

1. Provide for constrained motorized vehicle access in a manner that balances the needs of all desert users, private landowners, and other public agencies;
2. When designating or amending areas or routes for motorized vehicle access, to the degree possible, avoid adverse impacts to desert resources;

3. Use maps, signs and published information to communicate the allowable motorized vehicle access routes. Ensure all information materials are understandable and easy to follow;

4. Use the existing parameters for route designation in the CDCA Plan, including the parameter that has been interpreted to limit route designations to those routes existing in 1980. The MVA Element of the CDCA Plan provides rules or parameters on implementation of access management decisions. This includes a parameter which defined the routes from which route designations could be made to "At the minimum, use will be restricted to existing routes of travel" at the time of the CDCA Plan approval in 1980. The Plan acknowledged in the MVA Element that identification or mapping was still needed to indicate of what the "existing route network" consisted.

The Geology, Energy, and Minerals (GEM) Element of the CDCA Plan goal below also was not modified in the WEMO Plan in 2006:

5. Continue to recognize ways of access and opportunities for exploration and development on public lands, including to critical mineral resources, potential energy resources, and minerals of local and State importance.

The CDCA Plan also makes indirect reference to several access-dependent objectives throughout the Recreation Element of the CDCA Plan. Vehicle access is recognized as one of the most important recreation issues in the Desert, including the identification of specific routes for recreational use. Key objectives of the Recreation Element that are dependent on the travel management network and that were not amended by the WEMO Plan in 2006 include:

6. Provide for a wide range of quality recreation opportunities and experiences emphasizing dispersed undeveloped use;

7. Manage recreation use to minimize user conflicts, provide a safe recreation environment, and protect desert resources;

8. Adjust management approach to accommodate changing visitor use patterns and preferences;

9. Make available the use and enjoyment of desert recreation opportunities by special populations.

The No Action alternative would incorporate all goals, objectives, and strategies associated with travel management and access currently contained in the 2006 WEMO Plan. The 2006 WEMO Plan did not provide additional objectives specific to travel management. Key changes to the CDCA Plan Access and Recreation Element's Objectives made in the 2006 WEMO Plan included:

10. Adjust network-wide motor vehicle stopping, camping and parking parameters within DWMAs, vehicle use of washes, use of specific lakebeds, and competitive use of routes and designated competitive-event corridors as outlined in the 2005 WEMO FEIS. The specifics of these plan-level parameters are outlined in Section 2.3.2 of this chapter, along with other elements of the No Action alternative.

The Livestock Grazing Element of the CDCA Plan goals were not modified in the WEMO Plan in 2006 and are listed in Section 2.2.1 of this document, Subsection on General LUP Goals and Objectives Common to all Alternatives. Key additions to the CDCA Plan Livestock Grazing

Objectives made in the 2006 WEMO Plan and included in the No Action Alternative and all other alternatives are also listed in the previous Subsection of 2.2.1. These changes resulted in the discontinuation of sheep grazing over large portions of the planning area, further limitations on ephemeral cattle and sheep grazing in the planning area, and the adoption of the voluntary relinquishment mechanism for specified allotments.

The specific allotments affected by the changes identified in the 2006 WEMO Plan are outlined in Section 2.3.2 of this Chapter and Table 2.4-3, along with other elements of the No Action alternative. Until approval of the Regional Standards by the Secretary of the Interior, grazing activities would be managed under the Fallback Standards and Guidelines outlined in the regulations. In addition to the general Grazing Management goals and objectives that are common to all alternatives, the No Action alternative would carry forward allotment-specific grazing management land-use planning decisions in the 2006 WEMO Plan, as modified by the 2012 Lava Mountain and Walker Pass Common Allotment changes authorized under the 2012 Appropriations Act, as discussed in section 2.2.1.

2.2.3 Alternative 2: Resource Conservation Enhancement LUP-Level Goals, Objectives, and Strategies

Alternative 2 would supplement and amend the CDCA Plan, as previously amended by the 2006 WEMO Plan, to adopt a comprehensive transportation and travel management strategy for the WEMO Planning Area and modify the livestock grazing program to provide for additional species conservation and desert tortoise recovery in DWMA. The transportation management goals and objectives of the Resource Conservation Enhancement alternative have an increased focus on the use of two strategies: 1) route closure and 2) limitation of access routes—in order to minimize damage to resources, minimizing harassment of wildlife, and minimize conflicts. The network's goal is to minimize by avoiding site-specific impacts to public land resources, and to utilize regional measures to minimize overall network impacts. The Motorized Vehicle Access (MVA) Element of the CDCA Plan goals would be modified as follows:

1. Provide for constrained motorized vehicle access in a manner that recognizes the overall sensitivity of the West Mojave Planning area, while addressing the needs of all desert users, private landowners, and other public agencies.
2. When designating or amending areas or routes for motorized vehicle access, to the degree possible, avoid adverse impacts to desert resources.
3. Use maps, signs and published information to communicate the allowable motorized vehicle access routes. Ensure all information materials are understandable and easy to follow.
4. Eliminate the parameter for route designation in the CDCA Plan that limits route designations to those routes existing in 1980, which is inconsistent with maintaining an access system that updates route designations as new decisions are made. The system would be updated consistent with the overall goals and objectives of Alternative 2 and associated travel management plans.
5. Continue to provide opportunities for exploration and development on public lands by identifying appropriate access through the route designation process, consistent with 43 CFR 8342.1 and other regulations, including to critical mineral resources, potential energy resources, and minerals of local and State importance.

6. Further limit the range of recreation opportunities and experiences outside of OHV Open Areas consistent with access goals, to enhance sensitive resource values and emphasize quality recreation opportunities and experiences focused on specific destinations, rather than enhanced dispersed use.
7. Manage recreation use to minimize user conflicts, provide a safe recreation environment, and protect desert resources.
8. Adjust management approach to accommodate changing access needs, visitor use patterns and preferences.
9. Make available the use and enjoyment of desert recreation opportunities by special populations, non-mechanized, and non-motorized users, as well as motorized and motor-dependent users, as resources permit.
10. Further limit stopping, parking, and camping outside of DWMAs to 50 feet, which would be equivalent to the 2006 WEMO Plan limitations within DWMAs.
11. In addition to the Parish's Phacelia lakebed closures, close one additional dry lake to vehicular use (Koehn Dry Lake) that was designated as "Open" in the 2006 WEMO Plan.
12. Eliminate the Johnson Valley to Parker Competitive Event Corridor in addition to the Barstow-to-Vegas Competitive-Event Corridor which was already eliminated in the 2006 WEMO Plan. Also, restrict the system of "C" routes available outside of OHV Open Areas through the SRP process to the current specified designated routes, consistent with the CDCA Plan, and further restrict the use of such routes seasonally to avoid sensitive resources, by travel management area.

Key changes to the CDCA Plan Access and Recreation Elements made in the 2006 WEMO Plan included adjustments to network-wide motor vehicle stopping, camping and parking parameters within DWMAs, to vehicle use of washes and on of specific lakebeds, and to competitive use of routes and designated competitive-event corridors. Alternative 2 would further constrain these objectives. The specific locations of these plan-level changes are outlined in Section 2.3.3 of this Chapter, along with other elements of Alternative 2.

This alternative would not amend the existing livestock grazing element goals, objectives, and strategies in the CDCA Plan and amendments and would not eliminate the existing, adopted strategies from the 2006 WEMO Plan for voluntary relinquishment and for managing grazing in allotments that would continue to be grazed. The first five goals of the No Action alternative, for overall management of the program, application of standards and guidelines, and voluntary relinquishment would be unchanged. This alternative would, instead of further limiting livestock grazing in DWMAs, eliminate all livestock grazing in DWMAs and CHU. The specific allotments and acreages affected are outlined in Section 2.3.3 and in Table 2.4-3.

2.2.4 Alternative 3: Public Lands Access LUP-Level Goals, Objectives, and Strategies

Alternative 3 would supplement the 2006 WEMO Plan to adopt a comprehensive transportation and travel management strategy for the WEMO Planning Area. The transportation network under the Public Lands Access alternative places an increased focus on strategies that maintain access to serve existing management activities, provide access on historic motorized routes, and include many of the recommendations of the Desert Advisory Council and other jurisdictions,

and minimize damage to resources, harassment of wildlife, and conflicts. Instead of more route closures, the network minimizes regional and site-specific issues and conflicts by avoiding, reducing threats, redirecting access, by utilizing regional measures to minimize overall network impacts, and by developing other site-specific strategies. This alternative puts an emphasis on monitoring of fewer route closures and management of a larger network. The Motorized Vehicle Access (MVA) Element of the CDCA Plan goals would be modified as follows:

1. Provide for a wider range of motorized-vehicle access opportunities outside of OHV Open Areas, consistent with the management goals and regulations, emphasizing a broad range of additional uses and experiences in areas of low and moderate resource conflict and more directed access management in areas with higher resource conflict.
2. When designating or amending areas or routes for motorized vehicle access, to the degree possible, avoid adverse impacts to desert resources.
3. Use maps, signs and published information to communicate the allowable motorized vehicle access routes. Ensure all information materials are understandable and easy to follow.
4. Eliminate the parameter for route designation in the CDCA Plan that limits route designations to those routes existing in 1980, which is inconsistent with maintaining an access system that updates route designations as new decisions are made. The system would be updated consistent with the overall goals and objectives of Alternative 3 and associated travel management plans.
5. Continue to provide opportunities for exploration and development on public lands by identifying appropriate access through the route designation process, consistent with 43 CFR 8342.1 and other regulations, including to critical mineral resources, potential energy resources, and minerals of local and State importance.
6. Further limit stopping, parking, and camping outside of DWMA to 100 feet from centerline, which would be a decrease of 200 feet from the 2006 WEMO Plan limitations. Within DWMAs, stopping and parking would be the same as the No Action Alternative. These parameters would not prevent designated areas which exceed these parameters, consistent with travel management plans.
7. Where needed, designated camping, parking, and staging areas, and trailheads would be identified on previously disturbed areas that connect with the designated route network, with appropriate signing and access restrictions. Sensitive areas and areas connecting to OHV areas would be stressed.
8. Provide for a wide range of quality recreation opportunities and experiences emphasizing dispersed undeveloped use. Focus access limitations to specifically avoid or minimize impact to sensitive resource values, and emphasize enhanced dispersed use.
9. Manage recreation use to minimize user conflicts, provide a safe recreation environment, and protect desert resources.
10. Adjust management approach to accommodate changing access needs, visitor use patterns and preferences.
11. Make available the use and enjoyment of desert recreation opportunities by special populations, non-mechanized, and non-motorized users, as well as motorized and motor-dependent users, as resources (i.e., funding, staffing) permit.

12. In addition to the Parish's Phacelia lakebed closures, close one additional dry lakebed (Koehn Dry Lake) that was designated as "Open" in the 2006 WEMO Plan to vehicular use. Open three other lakebeds (Cuddeback, Coyote and Chishold Trail Lakes) that are currently restricted to limit travel to designated routes across the lakebed.
13. Eliminate the Johnson Valley to Parker Competitive Corridor in addition to the Barstow-to-Vegas Competitive-Event Corridor which was already eliminated in the 2006 WEMO Plan. Allow for designation of competive-use "C" routes outside of OHV Open Areas, including in specified MUC "Limited" areas, consistent with travel management area goals and route designation parameters.

Key changes to the CDCA Plan Access and Recreation Elements' Objectives made in the 2006 WEMO Plan included adjustments to network-wide motor vehicle stopping, camping and parking parameters, vehicle use of washes and of specific lakebeds, and competitive use of routes and designated competitive-event corridors. Alternative 3 would further constrain some of these objectives and loosen restrictions on others, on a site-specific or subarea-wide basis.

The alternative would not amend the existing goals and objectives for the livestock grazing element contained in the CDCA Plan and amendments, and would not eliminate the existing, adopted strategies from the 2006 WEMO Plan for voluntary relinquishment and for managing grazing in allotments that would continue to be grazed. This alternative would, however, include an additional goal of eliminating grazing on inactive, vacant allotments in desert tortoise habitat. The specific allotments and acreages affected are outlined in Section 2.3.4 and in Table 2.4-3.

2.2.5 Alternative 4: Community Access Enhancement LUP Goals and Objectives

Alternative 4 would supplement the 2006 WEMO Plan to adopt a comprehensive transportation and travel management strategy for the WEMO Planning Area. Alternative 4, the Community Access Enhancement Alternative, provides for motorized vehicle access in a manner that balances the needs of all desert users, private landowners, local communities, and other public agencies, by focusing on implementation strategies that promote and support active partnerships. The alternative utilizes the No Action Alternative as its basis, responds to public scoping comments, the recommendations of the Desert Advisory Council, and other agency and community input with respect to both resource conservation and increased recreational access. Then specific strategies are applied to minimize damage to resources, minimizing harassment of wildlife, and minimize conflicts consistent with increased emphasis on current use patterns, destinations, issues, and plans, where appropriate. The Motorized Vehicle Access (MVA) Element of the CDCA Plan goals would be modified as follows:

1. Provide for a wide range of dispersed recreation opportunities and diverse experiences in the West Mojave Planning area outside of designated OHV Open Areas considering local community and regional goals and objectives, relative resource sensitivities, current uses, and implementation strategies.
2. When designating or amending areas or routes for motorized vehicle access, to the degree possible, avoid adverse impacts to desert resources;
3. Use maps, signs and published information to communicate the allowable motorized vehicle access routes. Ensure all information materials are understandable and easy to follow;

4. Eliminate the parameter for route designation in the CDCA Plan that limits route designations to those routes existing in 1980, which is inconsistent with maintaining an access system that updates route designations as new decisions are made. The system would be updated consistent with the overall goals and objectives of Alternative 4 and associated travel management plans.
5. Further limit stopping, parking, and camping outside of DWMA to 100 feet from centerline, which would be a decrease of 200 feet from the 2006 WEMO Plan limitations. Within DWMAs, stopping and parking would be the same as the No Action Alternative. These parameters do not prevent designated areas which exceed these parameters, consistent with travel management plans.
6. Where needed, designated camping, parking and staging areas, and trailheads would be identified on previously disturbed areas that connect with the designated route network, with appropriate signing and access restrictions. Staging areas, parking areas, trailheads, and other facilities that support these goals and objectives that would be utilized would stress partnership management and implementation strategies. Connectivity with OHV Areas would be a priority.
7. Continue to provide opportunities for exploration and development on public lands by identifying appropriate access through the route designation process, consistent with 43 CFR 8342.1 and other regulations, including to critical mineral resources, potential energy resources, and minerals of local and State importance.
8. Provide for a wide range of quality recreation opportunities and experiences emphasizing dispersed undeveloped use. Identify access limitations to specifically avoid or minimize impact to sensitive resource values, or to further limit the range of recreation opportunities and experiences outside of OHV Open Areas in lower use areas as appropriate to enhance sensitive resource values and regional watershed and habitat values.
9. Manage recreation use to minimize user conflicts, provide a safe recreation environment, and protect desert resources;
10. Adjust management approach to accommodate changing access needs, visitor use patterns and preferences;
11. Make available the use and enjoyment of desert recreation opportunities by special populations, non-mechanized, and non-motorized users, as well as motorized and motor-dependent users, as resources permit.
12. In addition to the Parish's Phacelia lakebed closures, close one additional dry lakebed (Koehn Dry Lake) to vehicular use. Open three other lakebeds (Cuddeback, Coyote, and Chisholm Trail Dry Lakes) that are currently restricted to limit travel to designated routes across the lakebed.
13. Eliminate the Johnson Valley to Parker and the Barstow-to-Vegas Competitive-Event Corridor. Allow for designation of competive-use "C" routes in MUC "Limited" areas, consistent with travel management area goals. Consider another competitive route corridor to replace the Johnson Valley to Parker Corridor, if one can be located that does meets the minimization parameters for sensitive resources.

Key changes to the CDCA Plan Access and Recreation Elements' Objectives made in the 2006 WEMO Plan included adjustments to network-wide motor vehicle stopping, camping and parking parameters, to vehicle use of washes and of specific lakebeds, and to competitive use of routes and designated competitive-event corridors, on a site-specific or subarea-wide basis. Alternative 4 would further constrain some of these objectives and loosen restrictions on others.

The alternative would not amend the existing goals and objectives for the livestock grazing element contained in the CDCA Plan and amendments, and would not eliminate the existing, adopted strategies from the 2006 WEMO Plan for voluntary relinquishment and for managing grazing in allotments that continue to be grazed. This alternative would, however, include an additional goal of eliminating grazing on inactive, vacant allotments in DWMAs. The specific allotments and acreages affected are outlined in Section 2.3.4 and in Table 2.4-3.

2.3 Description of Route Network and Network Implementation Alternatives

As discussed in Sections 2.1.1 and 2.1.2, each of the alternatives is composed of LUP-level decisions and implementation-level decisions. Land-Use planning level alternatives are outlined in Section 2.2 of this Chapter. Section 2.3 outlines implementation-level decisions, including the specific route designations under each alternative and other implementation components, and provides minimization strategies and mitigation measures for the alternatives. The Agency Preferred Alternative for travel management in the Draft SEIS is Alternative 3. The proposed action will be selected after circulation of the Draft SEIS and may include a combination of one or more alternatives. It will take into consideration comments on the Draft SEIS from local jurisdictions, other agencies, tribes, and the public, as well as further consultation with USFWS and the SHPO and ACHP. It will also reflect ongoing data collection and GIS updates.

2.3.1 The Use of the "Baseline" in the Development of Alternatives

In 2012, the BLM began two efforts that would provide a comprehensive baseline of routes for the West Mojave Planning Area. An intensive open-route signing project and subsequent monitoring project was conducted in the field using GPS handheld equipment that could directionally track routes as they were being driven and assure map accuracy. At the same time, high quality 1:2000 aerial photography from 2009 was being reviewed by GIS personnel and used to provide a digital record of all the open routes and any unauthorized routes that intersected the open routes. The result of these two concurrent inventories is a baseline of primitive routes (ground transportation linear features) in the planning area of approximately 15,000 miles.

This is approximately 7,000 miles more than the inventory for the 2006 WEMO Plan indicated, as identified in the 2006 WEMO Plan and discussed further in Chapter 3. As discussed in Section 1.1.4 and Appendix E, the increase in the inventory is due to several factors, including public land acquisitions, improved aerial photography technology, improved electronic data storage, and correction of previous mapping errors based on magnetic alignment. BLM's sample review of the recent and earlier route inventories indicates that these routes have been in existence for some time. Based on a sample review of 2005 and current (2013) data, the miles of primitive routes in the inventory is stable.

The previously undocumented routes that were found in the linear disturbance inventory, but were not identified in any previous inventory were considered closed to all motor vehicles in the

No Action Alternative regardless of when those routes may have been physically created, unless they have been determined to be limited to authorized users, under current permit or other authorizing instrument. Based on these assumptions the miles of actual route closures as a result of the 2006 WEMO Plan is substantially higher than the number that was actually reported in the 2006 WEMO Plan.

The No Action Alternative in this SEIS therefore does not represent the inventory of "linear disturbances" or possible routes existing on the ground. Decisions as to whether and how to implement route closures will be made on all linear disturbances based on 2009 aerial photography compiled as of January 31, 2013. Route inventory corrections identified between January 31, 2013 and the Draft SEIS will be incorporated into the Final SEIS.

Routes that are discovered or developed after adoption of this amendment will be evaluated for addition, exclusion, and limitation at the time of identification, development, or reclamation, based on the parameters of the adopted LUP amendment and travel management plan. Routes that are considered for inclusion in the route network in the future, must be consistent with the regulations of 43 CFR 8342.1, current BLM policies, goals of the CDCA Plan as amended by the 2006 WEMO Plan, applicable travel management plans and other pertinent area plans, and include compliance with other laws and regulations including but not limited to ESA and NHPA compliance.

Each of the alternatives analyzed in this Draft SEIS were developed by identifying the resource protection and transportation access objectives to be accomplished by the alternative, as discussed in Section 2.2. Then, for each alternative, the three components of the alternative were developed as follows:

- The travel management framework that would achieve the alternative-specific objectives for access management in the WEMO Planning area was established. This included delineation of TMAs to serve as the geographical basis for implementation of the route management plans;
- The language of the CDCA Plan Amendment that is required to bring the CDCA Plan into conformance with other policy and guidance, and to meet the objectives of the alternative, was developed; and
- The travel network, including appropriate minimization and mitigation for each individual route segment in the inventory to meet the objectives of the alternatives, was developed.

The selected alternative will be used to replace Section 2.2.6 of the 2006 WEMO Plan.

2.3.2 Alternative 1: No Action

Under this alternative, no further plan amendments would be made to the CDCA Plan, as amended by the 2006 WEMO Plan. The goals and objectives that exist under Alternative 1 are described in Subsections 2.2.1 and 2.2.2. Subsection 2.3 summarizes the process used to develop the alternative route network under all alternatives. The No Action Alternative is the travel management and grazing management strategy in effect. It is the strategy approved in the 2006 WEMO Plan, as modified by the US District Court (the Court) Remedy Order for specific routes, and reflecting recent changes that have resulted from legislation, or from identified valid existing rights. It does not address policy inconsistencies identified by the Court in its Summary

Judgment Order, including the limitation of the routes in the route network to existing routes as of 1980.

The No Action Alternative provides for access on public lands consistent with a broad species-conservation strategy and consideration of other resource values and uses. The route network would be applied within the context of the current CDCA Plan, as modified by the 2006 WEMO Plan[2].

Plan Amendment under Alternative 1

Under the No Action Alternative, no plan amendment changes would be made for the WEMO Planning area. The relevant existing plan decisions, which would continue under the No Action Alternative, are listed in Table 2.1-1 in Section 2.1.2, and again summarized below.

PA I. There would be no change to the CDCA Land Use Plan language that has been interpreted to limit the 2006 WEMO Plan route network to existing routes of travel as of 1980. The route network approved under the 2006 WEMO Plan, as modified by the Court, would continue to be in place, and would be inconsistent with this LUP guidance.

PA II. The CDCA Plan would not be updated to incorporate the framework for and be consistent with the TTM route designation process.

PA III. Public land Access Area boundaries and Recreation Area designations in the CDCA Plan would be conformed to reflect changes as a result of the wilderness designations and the 29 Palms MCAGCC expansion legislation in the WEMO Planning area. These plan conformance actions reflect alignment of the land-use plan with legislative decisions and are non-discretionary.

PA IV. CDCA Plan amendment triggers in the WEMO Planning area would be unchanged from the 2006 WEMO Plan as summarized later in this subsection.

PA V. The Livestock Grazing Program Allotment designations in the CDCA Plan would be conformed with the 2012 Appropriations Act, which permanently relinquished the Lava Mountain and Walker Pass Common Allotments and reallocated their AUMs from livestock forage and use to wildlife use and ecosystem functions. These plan conformance actions reflect alignment of the land-use plan with legislative decisions and are non-discretionary.

PA VI. A new Transportation Management Framework, including adoption of Travel Management Areas (TMAs) and associated objectives, would not occur. The access management framework from the CDCA Plan would continue to be utilized.

PA VII. The Johnson Valley to Parker Valley Race Corridor would continue to be the one remaining race corridor available for permitting, subject to approval and receipt of a Special Recreation Permit, and competive corridor parameters identified in the CDCA Plan, as supplemented through compliance with NEPA, Section 106, and

[2] It also reflects OHV area decisions resulting from post-2006 Congressional wilderness designations.

ESA. No permit has been granted for this race course since the listing of the desert tortoise.

Under this alternative the "C" routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road would continue to be made available for competitive motorized races managed under a Special Recreation Permit. There are approximately 20 miles of designated trails that would be classified as "C" routes in this area. These "C" trails are located in gently rolling, more open terrain and are generally less technical in nature. In addition, approximately 15 miles of loop trails south of Spangler Hills have been designated under No Action. The adoption and use of other "C" routes would be subject to the plan amendment parameters identified in the 2006 WEMO Plan, and may include additional closure offset requirements.

PA VIII. There would be no changes to access across dry lakes, as designated in the CDCA Plan and amended by the 2006 WEMO Plan. Koehn lakebed would remain designated as Open, as it was designated in the 2006 WEMO Plan. Cuddeback, Coyote, and Chisholm Lake Trail lakebeds would remain designated consistent with the surrounding area – i.e., "Closed to motor vehicle access, except for approved routes of travel or as authorized by Land Use Permit or Special Recreation Permit".

PA IX. The Rands Mountains Fremont Valley Management area would be managed consistent with parameters outlined in 2.2.1.2.4 of the 2005 WEMO FEIS, including the implementation of a visitor use permit program for those desiring to use vehicles in the Rand Mountains.

PA X. The stopping and parking limits would remain as they are currently defined in the CDCA Plan. Stopping and parking can take place within 50 feet either side of the route centerline inside DWMAs, while camping is restricted to existing disturbed areas along open routes. Stopping, parking, and camping can take place within 300 feet either side of centerline outside of DWMAs. Camping is subject to an additional limitation of occurring in previously disturbed, adjacent to routes parameter, which does not change under alternatives.

PA XI. Under the No Action alternative, livestock grazing would continue under the current terms and conditions contained in the Final Grazing Decisions issued for active grazing allotments within the West Mojave Planning Area. This would include the continuation of livestock grazing on the Ord Mountain Allotment within the Ord-Rodman DWMA, and the continuation of ephemeral sheep grazing on the Cantil Common Allotment and the Shadow Mountain Allotment within the Fremont-Kramer DWMA. Livestock grazing would be discontinued on inactive allotments in DWMAs, to include portion of the Buckhorn Canyon Allotment. Under the No Action Alternative vacant allotments, including those in DWMAs, would be subject to NEPA analysis upon receipt of an application to graze, and, if grazing is approved, would be subject to the terms and conditions of the 2006 West Mojave Plan.

Implementation Decisions for Route Designation/Minimization under Alternative 1

The No Action Alternative is the access strategy approved in the 2006 WEMO Plan, as modified by the US District Court (the Court) Remedy Order for specific routes, and serves as the alternative against which all other alternatives are compared. The access network included in the No Action Alternative is the adopted 2006 WEMO Plan network that is currently in use by the public, with minor modifications to correct route discrepancies identified during the inventory process. The focus of this alternative is to support the biological resource goals and objectives of the 2006 WEMO Plan, while also meeting other FLPMA multiple use objectives of the CDCA Plan. It provides for access on public lands consistent with a broad species conservation strategy and consideration of other natural and cultural values. The route network would be applied within the context of the current CDCA Plan, as modified by the 2006 WEMO Plan[3], with the following modifications to address current management on-the-ground:

- Travel network designations are updated to capture current authorized and administrative routes that may not have been included in the 2006 WEMO Plan route designation effort, but which are based on valid existing rights (VER) to access, or meeting minimum agency requirements for emergency fire access. These changes are consistent with Section 2.2.6.11 of the 2005 WEMO FEIS.
- R5 and R50 are closed in compliance with the 2011 Court Remedy Order.
- Errors and network breaks are repaired to the extent feasible, if they do not change the overall network. These errors are specifically identified on the No Action maps.
- Routes not inventoried in 2006 are not included in the network, but would be addressed in implementation plans in the context of other strategies such as signing and law enforcement, as appropriate.
- Interim Signing and Kiosk Plans, Law Enforcement, and Route Monitoring Program approved by the Court are included in the No Action Alternative. Other signing, maintenance, law enforcement, monitoring, and rehabilitation activities would occur based on existing CDCA Plan, 2006 WEMO Plan Amendment, and ACEC plan priorities, consistent with available funding.
- 5,338 miles of motorized routes are designated and managed as available for some level of motorized use in subsequent implementation activities, based on the identified adjustments. Non-motorized routes were not specifically designated in the CDCA Plan or the WEMO Plan as a component of transportation and travel management network. A limited number of non-motorized trails have been evaluated outside of the context of transportation management, e.g. as a component of ACEC Management Plans. These non-motorized trails would continue to be available, in the context of existing activity plans and NEPA documentation.

The No Action Alternative for the transportation network is not equivalent to the current baseline inventory of linear transportation features. For land use planning actions, the No Action Alternative is the continuation of implementation of the management direction in the existing land use plan (BLM NEPA Manual, p.52). This is the continuation of the present level or systems of

[3] It also reflects OHV area decisions resulting from post-2006 Congressional wilderness designations.

resource use (43 CFR 1610.4-5), that is, "no change" from current management direction until that direction is subsequently changed. (Council on Environmental Quality, NEPA 40 Questions, 3.A). The network associated with the No Action Alternative consists of the network designations that were made in the WEMO Plan (see WEMO FEIS Appendix R), with the modifications directed by the District Court and other modifications bulleted in the previous paragraph, and corrected where minor inaccuracies were found on the maps and where motorized routes are recognized by the BLM to provide access to valid existing rights.

In contrast, a baseline describes the present condition of the affected resources within an indentified geographic scope (BLM NEPA Manual, p.53). Here the current baseline includes routes that exist on the ground as identified by the inventory efforts for this land use plan amendment project, whether or not they have been previously identified, evaluated or designated by the BLM.

The 2005 WEMO FEIS designated approximately 5,105 miles of routes as open (Open and Limited designations) to OHV use and 2,391 miles of routes closed to OHV use (p. 4-140, Table 4-45a). These numbers subsequently underwent minor adjustments such that 5,098 miles of route were designated Open or Limited (ES-5, 2005 WEMO FEIS), resulting in a similar modification of closures to 2,398 miles. The designated routes were identified on maps in a CD provided with the 2005 WEMO FEIS (App. C) and are also available online (see http://www.blm.gov/ca/st/en/fo/cdd/wemo_plan_feis_maps.html).

These routes are taken from the final inventory of routes identified for the 2005 WEMO FEIS and previous inventories for the 1985-1987 route designation effort, the Ord Pilot route designations, and the ACEC Plan designations. The 2005 WEMO FEIS (p. 1-16) indicates that the inventory of routes consisted of almost 8,000 miles of routes, with some additional mileage from field survey crews in 1985 and 1987, during the preparation of ACEC plans, and digital data from 1995 and 1996, but does not provide a more specific total mileage for the entire planning area. However, the document does state that in areas surveyed, approximately nine percent or more of the routes were not found on the ground. The route designation mileage totals from the 2005 WEMO FEIS were slightly modified by the changes in the 2006 WEMO Plan ROD, and the subsequent closure of two specific routes by the Court, in its 2011 Remedy Order.

Consistent with Section 2.2.6.11 of the 2005 WEMO FEIS (FEIS p.2-167), the current network has also been updated to include valid existing rights (VER) routes that were not recognized in the 2006 WEMO Plan or which have since been approved. A records review of the lands and minerals database (LR 2000) has identified close to 300 miles of VER routes in the designated route network under the No Action Alternative. Most of these routes would have been were permitted or otherwise authorized by the BLM before the 2005 WEMO FEIS, but this adjustment also includes ROW miles, such as those associated with major powerlines, that have been permitted since that time. This results in a refinement of the total mileage of routes in the No Action Alternative to 5,338 miles of Open and Limited Routes, and 2,158 miles of Closed Routes.

A recurring issue with the No Action Alternative route network involves the historic data used to develop the 2006 WEMO Plan and the underlying CDCA Plan. In the CDCA Plan the route network in limited use areas was based on "existing routes of travel" (CDCA Plan, 1999 amendment, p.76). Use in class "I" and "M" limited use areas was limited to "existing routes" (Id.) While many routes were clearly known and subsequently specifically designated as open,

closed or limited to OHV use in these use areas, others were not. This network of existing routes was later referred to in the 2005 WEMO FEIS (see Section 2.2.6.1). However, the network adopted in the 2006 WEMO Plan only consists of specifically designated routes throughout the entire planning area (see 2005 WEMO FEIS maps website). Many or most of these specifically designated routes within limited use areas were "existing routes of travel". Other routes that were not designated in the 2006 WEMO Plan likely were and remain "existing routes of travel" but carry no formal open, closed or limited use designation. In any event, the FEIS maps, as with the modifications discussed earlier in this section, depict the 2006 WEMO Plan network brought forward in the No Action Alternative for the current planning effort.

The same lack of clarity is found in past route designation efforts, which in addition, have not been conducted in any consistent way over time. It is unclear, with the history of route designations in the WEMO Planning area, to what extent the "existing routes" concept is still valid. It remains unclear whether the universe of "existing routes" represents a floor or a ceiling of routes available for public and other uses, and finally, how routes in this category would be portrayed and distinguished from routes that are not "existing routes". The No Action Alternative does not include the issue of "existing routes" in this planning effort. Rather, the No Action Alternative includes the specifically designated network, as modified (by the WEMO ROD, the court orders, the overlooked VERs, and minor adjustments) but does not resolve or clarify the "existing routes" concept as portrayed in the CDCA Plan.

BLM now knows that many other routes physically did exist on the ground within the WEMO planning area at the time of the 2005 WEMO FEIS, as evidenced by a review of 2005 aerial photography. As a result of the 2005 and 2009 aerial photography and field review, an additional 7,000 miles of routes have been located on the ground and included in the 2013 inventory that were not part of the approximately 8,000 miles of inventoried routes discussed in the 2005 WEMO FEIS. The inventoried miles for this project approximates 14,950 miles, as computed with GIS.

The 2013 updated inventory for this planning process identified many routes that were not considered during the 2006 WEMO Planning process but that exist on the ground. These additional miles of routes include those few hundred miles of routes available to authorized users but not identified at the time of the 2006 WEMO Plan, or which have been approved for authorized users since that time. However, for most of these routes, it is unclear why these existing routes were not documented, reviewed, and designated in previous planning efforts. Particularly in Motorized Access Zones, the focus of the route designation effort was on development of a cohesive network and conservation of biological and other sensitive resources. Some of these routes also are lightly and infrequently used, and either through natural or past reclamation activities, may have been considered to be on their way to rehabilitation even if they still show signs of disturbance (i.e., not existing). Likewise, it is not clear when the additional miles of undocumented routes were created (this lack of clarity was recognized by the Court in the Summary Judgment and Remedy Orders).

The additional miles of existing, undocumented routes include duplicate routes (e.g., routes that run right next to another) that were overlooked, routes in the "existing routes" areas that were not considered in the 1985-1987 or ACEC designation efforts, wash routes not readily recognized as OHV routes, motorcycle routes outside of the 2006 WEMO Plan redesign and reassessment areas, and other routes in the planning area that may not have been evident on the ground or that were overlooked. The weaknesses of the 1985-1987 inventories were already discussed in the

The additional miles of routes may include some that were created after the 1985-1987 route designation or after the 2006 WEMO Plan compilation and inventory efforts. A more complete discussion of the history of route designation leading up to the 2006 WEMO Plan may be found in Appendix E of this document.

A sample review of good quality 2005 and 2013 aerial photography indicates that the majority of these additional miles of routes appear to have been existing at the time of the release of the 2005 WEMO FEIS, and likely much earlier. However, the undocumented mileage of routes was not designated in the 2006 WEMO Plan, have not been subsequently designated through another planning process, was not evaluated and designated consistent with 43 CFR 8342.1, and exceed the parameters presented in the 2005 WEMO FEIS for modification of the route network, as explained in Section 2.2.6.11. Therefore, the additional mileage would not be included as part of the designated routes (open or closed) in the No Action Alternative. This is the case for any of the routes (or additional mileage thereto), whether they are identified as being in the "Redesign Areas" or the "Retention of Existing Routes" areas (2005 WEMO FEIS, Section 2.2.6.1, page 2-137). Under the No Action Alternative, in order to be considered for designation as an open route, undocumented existing routes (or additional mileage thereto) would need to be analyzed through an additional designation process. Implementation strategies and priorities for routes in this category would be pursued consistent with the strategies for designated routes discussed below.

The transportation network associated with the No Action Alternative is shown in Figure 2.3-1. The previous route designations made in the 2006 WEMO Plan, and as modified by the Court's Remedy Order and updated to include additional VER and minor adjustments, would continue without change. A summary of the route designations under the No Action alternative is provided in Table 2.4-1.

Network-Wide Minimization under Alternative 1

The following strategies, summarized in Table 2.3-1, were utilized in the development of the No Action Alternative in the 2006 WEMO Plan to minimize impacts.

Table 2.3-1. Network-Wide Minimization Strategies Under No Action Alternative

Issue	Minimization and Mitigation Measure
Minimization of T&E impacts	Per 2006 WEMO Plan, 1% allowable new ground disturbance within DWMAs. Consultation with Fish and Wildlife Service and issuance of a biological opinion.
Minimization of Sensitive Species impacts	Per 2006 WEMO Plan, 1% allowable new ground disturbance within MGS Core Areas, and specific Sensitive plant species ACECs (Table 2-11, 2005 WEMO FEIS).
Designation of Newly developed routes [1] (allowable ground disturbance limitations)	Per 2006 WEMO Plan, 1% allowable new ground disturbance limits in areas identified above. Very limited opportunities to modify network without a plan-wide review, except for valid existing rights and new authorized activities.

Table 2.3-1. Network-Wide Minimization Strategies Under No Action Alternative

Issue	Minimization and Mitigation Measure
Designation of Previously Closed Routes	All routes closed under the 2006 WEMO Plan would remain closed, except for valid existing rights overlooked or subsequently approved, consistent with the No Action alternative.
Designation of Newly Identified Routes	All routes that were not identified for evaluated under the 2006 WEMO Plan and designated open or close would be treated as closed, pending future evaluation under the terms of the 2006 WEMO Plan. .
Stopping Minimization Strategies	Per 2006 WEMO Plan, limited to adjacent to designated open routes and within 50 feet either side of route centerline inside DWMA, and per CDCA Plan, limited to 300 feet either side of route centerline outside DWMAs.
Parking Minimization Strategies	Per 2006 WEMO Plan, limited to adjacent to designated open routes and within 50 feet either side of from route centerline inside DWMA, and Per CDCA Plan, limited to 300 feet either side of route centerline outside DWMAs.
Camping/ Second Vehicle Staging Minimization Strategies	Per 2006 WEMO Plan, limited to previously disturbed areas within 50 feet inside DWMAs; outside of DWMAs must occur within 300 feet of centerline of routes designated open.
Designation of Long-Distance Competitive Race Course Corridors and "C" routes.	The Barstow to Las Vegas and Johnson Valley to Stoddard Valley Race Courses would be eliminated and the Johnson Valley to Parker Course would be retained. Other Competitive events on "C" routes only. Not available on other Open routes.
Designation Parameters on Motorized Use of Washes	Allowed in washes designated as open routes only.

[1] Newly developed routes are routes that would require mechanical equipment or hand tools to be establish on the ground and are not present in 2005 aerial imagery or the 2013 inventory used to develop the WMRNP plan.

Post-Designation Implementation Strategies under Alternative 1

The process for on-the-ground implementation of route designations and grazing management under Alternative 1 would be based on the parameters of the WEMO Plan, as modified by the four implementation plans that BLM was required to prepare in response to the Court's 2011 Remedy Order. In the 2006 WEMO Plan, specific guidelines for implementation of route designation were outlined in the WEMO FEIS, Chapter 2, Section 2.2.6.10 to 2.2.8, and Appendix C, and summarized below. Specific guidelines for implementation of grazing management were outlined in the WEMO FEIS and Appendix C, and in subsequent grazing decisions for each active allotment.

In the 2011 Remedy Order, the Court directed BLM to submit certain additional implementation plans, but left the content of those plans to the discretion of the BLM. These plans, as they currently exist, are posted on the BLM WEMO Amendment website (http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html), and are currently being

implemented by the BLM. The four plans are a Sign Implementation Plan, a Route Monitoring Plan, a Route Maintenance and Kiosk Plan, and an Enforcement Plan.

The BLM considers the plans directed by the Remedy Order to be part of the No Action alternative. The Remedy Order provided that:

- The BLM should provide the Court with a detailed implementation plan for signing all open routes in the WEMO plan area.
- The BLM shall provide the Court with a monitoring plan to determine compliance with route closures, and whether new illegal routes are being created. The monitoring plan should demonstrate that the effort will be adequate to determine compliance at a statistically significant level.
- The BLM will provide the Court and the parties with a plan for maintenance of the open route network and installation of informational kiosks at all major OHV access points. The. BLM will provide the Court and the parties with a plan for providing additional enforcement capability for the route network in the WEMO plan area.

The Court also directed BLM to undertake the following activities pursuant to the Remedy Order:

- The BLM shall update all BLM-produced and available maps to include accurate and updated route information, and, as necessary, include the following notice in particular type on all maps, pamphlets, kiosks, and other literature regarding WEMO OHV routes distributed by the BLM.
- The Notice reads: "Notice – Motorized use is permitted only on routes signed "open". Any route that does not have an "open" sign is not legal for motorized use. Motorized use of any closed route will result in a fine or criminal prosecution";
- The BLM shall carry out additional information gathering and monitoring regarding (a) air quality in and around open areas through air quality monitoring, (b) status of the Mojave finge-toed lizard and its habitat, and (c) riparian areas and UPAs, including new "properly functioning condition" ("PFC") assessments for all of the springs and seeps in the West Mojave planning area.
- The BLM will provide the Court and the parties quarterly reports indicating the BLM's progress in implementing the above requirements.

The Monitoring Plan directed by the Court was submitted in April, 2013, and monitoring of the route network according to the plan began in July, 2013.

Implementation of the route network would continue to proceed according to the following priorities identified in the WEMO Plan, p. 2-165:

- Pursue funding for route signing;
- Pursue funding for route rehabilitation;
- Sign the open route network;
- Maintain the open route network, with an emphasis on making the open network of routes more obvious and attractive to use than the closed routes;

- Install informational kiosks and interpretive signing where it would be more effective;
- Develop and publish maps that are up-to-date, readily available, and have a readily understandable and useful format;
- Regularly maintain signs, kiosks, routes, maps, and brochures;
- When additional funding is received, pursue route rehabilitation in priority areas; and
- As additional funding is received, initiate two-year enforcement and visitor service patrols in specific areas. Enforcement priorities are identified in the WEMO FEIS, p. 2-71, as updated

BLM has implemented signing, completed installation of informational kiosks pursuant to the WEMO Plan, added additional kiosks in key locations, generated maps of the route network, is maintaining the network, and continues to seek additional funds for targeted law enforcement activities. BLM also continues to work on rehabilitation activities, and annually pursues additional funding, directly and with partners, to proceed with rehabilitation of routes in priority areas.

Specific implementation activities with a timeline are called out in Section 2.2.6.10 and Appendix C of the WEMO FEIS Implementation Plan and are elements of the No Action Alternative. Many of these are already implemented. If not yet implemented, their status is also included.

Table 2.3-2 Implementation Activities and Timeframes

Timing	Activity	Status *All activities assume funding is received.
Travel Management		
Year 1	Sign Open Route Network	Done
Year 1	Install Informational Kiosks and Interpretive Signing	Done
Year 1, Ongoing	Maintain Open Route Network	Ongoing
Year 1, Ongoing	Develop and publish maps and brochures	Done. Updates deferred to decision on this project.
Year 2	Identify and place fencing on the west side of Johnson Valley OHV Open Area to prevent unauthorized OHV use in the Ord-Rodman DWMA, and minimize use in the Cinnamon Hills area.	Done
Year 2, Ongoing	Monitor JV OHV boundary fence, repair vandalism, make outreach a high priority at the time of fence installation; and	Ongoing
Year 2, Ongoing	Identify and place additional fencing as needed along the boundary of Stoddard Valley and Johnson Valley OHV areas as needed to conteract effects on the Ord-Rodman DWMA.	Additional boundary fencing is anticipated in conjunction with the Johnson Valley expansion. No additional fencing identified on the east side of Stoddard Valley
Grazing Program		
Year 1	Modify boundaries (and kind and use) of cattle and sheep allotments, as approved in the WEMO Plan.	Done

Table 2.3-2 Implementation Activities and Timeframes

Timing	Activity	Status *All activities assume funding is received.
Year 1	Prohibit sheep grazing from those portions of the Stoddard Mountain Allotment that occur within the Mojave Monkeyflower Conservatoin Area. BLM shall work with the lessee to clearly identify monkeyflower habitat that shall be avoided.	Done
Year 1	Health assessments shall be completed for the Cronese Lake. Harper Lake, and Ord Mountain allotments. Results will be used as baseline information to develop needed corrective measures.	Done for Ord; Harper Lake and Cronese Lake allotments are currently vacant; therefore have become lower priority for health assessments.
Year 2	Health assessments shall be completed for the Cady Mountain, Hansen Common, Rattlesnake Canyon, Rudnick Common, Tunawee Common, and Walker Pass allotments.	Cady Mtn., Hansen Common, Rattlesnake Canyon, Rudnick Common, Tunawee Common assessments complete. Walker Pass premanently retired under the authority of the 2012 Approp. Act.
Year 2	Provide sheep lessees notification pursuant to 43 CFR 4110.4-2 (b) before actions in section 2.2.19.6 of the 2003 WEMO DEIS are implemented.	Done in grazing decisions.
Year 2	Implement the approved livestock grazing strategy.	Done in grazing decisions.
Year 2	Update the Ord Mountain Allotment Management Plan and install range fences in 2 locations to exclude cattle from high concentration tortoise areas found adjacent to the Ord Mountain allotment: the southern boundary of the allotment west of Cinnamon Hills, and the eastern boundary of the allotment in the vicinity of Box Canyon.	Completed interior fences that facilitate seasonal closures instead. Due to low stocking rates in the Ord Mtn. Allotment, the external range fences are now a lower priority.
Year 3	Health assessments shall be completed for cattle allotments outside of DWMA and the MGS Conservation Area, including Lacey-Cactus-McCloud, Olancha, Round Mountain and Whitewater Canyon.	Lacey-Cactus-McCloud, Olancha, Round Mountain and Kelso Peak assessments complete. Whitewater Canyon voluntarily relinquished.
Year 3	Determine if studies are needed to assess cattle or sheep impacts and determine any adaptive management prescriptions that may be required. These would include new management prescriptions in the Cronese Lake. Harper Lake, and Ord Mountain allotments to implement exclusion of cattle from specific areas when the threshold is below 230 lb/acre, and appropriate rest of certain pastures.	Done in grazing decisions, ongoing.
Year 3	Modify all existing cattle guards in desert tortoise habitat to prevent entrapment of desert tortoises.	Done.
Year 10	Determine grazing compatibility with sensitive biological resources, and subsequently undertake a NEPA analysis of management alternatives to issue a grazing decision that implements compatible management provisions.	

Monitoring and Adaptive Management

Monitoring and rehabilitation priorities are identified in the Route Signing Plan posted at http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html, and are based on a combination of factors including biological, wilderness, cultural, proximity to urban interface, and readiness. The basis of the biological priorities is outlined in more detail in the 2005 WEMO FEIS, page 2-164. Biological enforcement priorities outlined in more detail in the 2005 WEMO FEIS, page 2-71 and include higher use DWMA areas, DWMA adjacent to OHV Open Areas, and higher density tortoise areas.

In addition, funding is being sought to expand the current education and outreach community partnership, which began in 2005 and now reaches 16,000 school-age children in the Barstow area, and many more through activities funded by OHV Area Friends groups in the WEMO area.

Under the No Action Alternative, the route network is adopted as a component of the CDCA Plan. Major route network changes that exceed the parameters identified in 2.2.6.11 of the 2005 WEMO FEIS would requires Plan Amendment and associated NEPA review. Minor route network changes are narrowly defined. Minor changes would include realignments to avoid identified cultural sites, reduce impact on special-status species or their habitat, or to substantially increase the quality of recreational experience, that would not affect sensitive species, their habitat, or other sensitive resources. Opening or closing routes where valid existing rights or easements where not accurately recorded, providing access to private inholdings are also considered minor changes, or serving the same access need as a currently open route which is being re-aligned. These changes would occur within the parameters set in the 2006 WEMO Plan. Minor changes are evaluated through an appropriate NEPA instrument (Determination of NEPA Adequacy, Categorical Exclusion, or Environmental Assessment, or Environmental Impact Statement).

2.3.3 Alternative 2: Resource Conservation Enhancement

The LUP-level decisions that would be made under all action alternatives, including Alternative 2, are described in subsection 2.1. The goals and objectives that would be established under Alternative 2 are described in subsection 2.2. Subsection 2.3 summarizes the process used to develop the alternative route network under all alternatives.

Plan Amendment under Alternative 2

Under Alternative 2, the five proposed plan amendment decisions (PA I – PA V) that are common to all action alternatives and are described in subsection 2.1.2, would be made.

Of the six proposed plan amendment decisions that would vary among alternatives (PA VI – PA XI), the following decisions would be made under Alternative 2:

VI. Alternative 2 would delineate eight Travel Management Areas (TMAs) and associated modes of access and travel. The boundaries of the eight TMAs are shown in Figure 2.3-2, and are summarized in Table 2.3-3.

Table 2.3-3. Summary of Travel Management Areas under Alternatives 2 and 3

Travel Management Area	Sub-regions and General Location
1	Broadwell Lake, Afton Canyon, and East of Barstow signing sub-regions
2	Sierras, Darwin, and North and South Searles signing sub-regions
3	Juniper, Rattlesnake, Morongo, Wonder Valley, and Joshua Tree signing sub-regions
4	Jawbone, Middle Knob and Lancaster signing sub-regions
5	West Mojave North Barstow Desert Wildlife Management Area signing sub-region north of Interstate-15 and State Route 58
6	El Mirage (including Edwards Bowl area), Fremont, and Iron Mountain signing sub-regions south of State Route 58
7	Ridgecrest, El Paso, Rands and Red Mountain signing sub-regions
8	Lands adjacent to Stoddard and Johnson Off-highway Vehicle areas, and other signing sub-regions south of Interstate-40 and north of State Route 247 including east of Interstate-15

VII. Alternative 2 would seasonally restrict the use of the currently designated "C" routes for competitive motorized races managed under a Special Recreation Permit outside of OHV Open Areas. Any race staging area for (C) routes would still be limited to MUC Intensive (Class I) lands, and pit areas would be limited to those areas previously dedicated as pit areas along a route, and analyzed as such in compliance with NEPA, Section 106, and ESA compliance.

Alternative 2 would delete the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor in the WEMO Planning Area. This would not affect non-competitive special recreation events such as dual sports.

VIII. Alternative 2 would add Koehn, Cuddeback, Coyote, and Chisholm Trail Lake lakebeds to the list of designated Lakebeds, and would Close Koehn Lakebed (see Figure 2.3-3). The other three lakebeds would remain "Closed to motor vehicle access, except for approved routes of travel or as authorized by Land Use Permit or Special Recreation Permit".

IX. The Rands Mountains Fremont Valley Management area would be managed consistent with parameters outlined in 2.2.1.2.4 of the 2005 WEMO FEIS, including the continued implementation of a visitor use permit program for those desiring to use vehicles in the Rand Mountains.

X. Alternative 2 would limit camping to previously disturbed areas adjacent to Open Routes within 50 feet from the route centerline, both inside and outside of DWMAs in the WEMO Planning Area. Stopping and parking would also be limited to within 50 feet either side of the route centerline in the WEMO Planning Area.

XI. Livestock grazing would be discontinued in DWMAs and in CHU designated by the USFWS, with the exception of a small horse allotment, the Valley Well Allotment. Through this land-use planning change, lands would no longer be available for livestock grazing in portions of three active allotments, consistent with 43 CFR 4130.2 (a). The

affected active allotments in DWMAs and CHU include portions of Ord Mountain, Cantil Common, and Shadow Mountain allotments. These allotments would have their boundaries adjusted to remove the DWMA and CHU lands from the allotments. The AUMs in the DWMA portions of the allotments would be reallocated from livestock forage to wildlife use and ecosystem functions. See Table 2.4-3 in section 2.4 for acreages and a comparison between alternatives.

Livestock grazing would also be discontinued in inactive allotments in DWMAs and designated CHU. Through this land-use planning change, lands would no longer be available for livestock grazing in two inactive, vacant allotments in their entirety, and a small portion of another consistent with 43 CFR 4130.2 (a). The inactive, vacant allotments include Cronese Lake and Harper Lake Allotments and a small portion of the Johnson Valley Allotment. The AUMs in the allotments would be reallocated from livestock forage to wildlife use and ecosystem functions.

Implementation Decisions for Route Designation/Minimization under Alternative 2

Although all alternative networks are compared to the No Action route network (e.g., the 2006 WEMO route network as modified by the court and new legislation), all routes in the inventory were reviewed against the 43 CFR 8342.1 criteria for possible inclusion in each action alternative, within the parameters of the alternative goals and objectives, including for Alternative 2; however the preliminary designations for routes reflect the overall goals and objectives of Alternative 2, and mediate against adding new routes to the network. The following parameters were used for identifying the preliminary Alternative 2:

a. Stopping, parking and camping parameters would be further limited outside of DWMAs, specific to Alternative 2 (see plan amendment IX), and used to further focus the impacts from criteria resources and the need for minimization strategies and mitigation measures.

b. Routes designated as "Closed" in the 2006 WEMO Plan decision would be initially identified as "Transportation Linear Disturbances" under Alternative 2, subject to route-specific review.

c. Routes which were undesignated in the 2006 WEMO Plan decision (i.e., features that were added in 2013 as a result of the GTLF inventory update and the on-the-ground signing process) would be initially identified as "Transportation Linear Disturbances", subject to route-specific review. This parameter would help assure at least one alternative with less than 5,098 miles of routes, as required by the Court's Remedy Order. In keeping with the resource protection focus of Alternative 2, this step in the process defaulted to closing all features which were not designated in 2006, and which were added to the inventory for the first time in 2013 even if they existed on the ground prior to the 2006 WEMO Plan. Final designations may have closed, limited, or opened these routes, based on additional information, as outlined in Section 2.1.4.

d. Routes in OHV Limited Areas which were designated as "Open" in the 2006 WEMO Plan, and which have no resource or other designation criteria conflicts identified, would initially remain identified as "Motorized" (available for all travelers, including non-motorized or non-mechanized users), subject to route-specific review.

e. Routes in OHV Limited Areas which were designated as "Open" in the 2006 Plan, but which may have resource or other designation criteria conflicts, were highlighted, in order to focus route-specific review the identified conflicts and to determine whether to minimize impacts through changing their route designations or to keep them available for public use and identify appropriate mitigation measures. Some of these routes would have been identified as closed under the initial GIS Alternative 2, depending upon the conflict types, intensity, and numbers (cumulative effects).

f. Routes designated as "Limited" in the 2006 WEMO Plan decision would be identified as "Motorized-Authorized" or "Motorized-Administrative" (specific to the limitation), as applicable, subject to route-specific review. Many Motorized-Authorized routes would have undergone site-specific review and mitigation associated with a permit or other authorization. If conflicts were identified, these route features again were highlighted, in order to focus specific review for the identified conflicts. These conflicts would also be factored into determining whether routes would be available for public use and appropriate mitigation measures associated with route use.

g. For routes located in a disturbance hotspot outside of DWMAs, the route would be designated as a transportation linear disturbance (closed), except as needed to maintain connectivity of the network, in order to minimize impacts to air quality and prevent additional habitat disturbance to the area. Disturbance hotspots are areas which have a significant density of routes within a very small area, such as historic vehicle play or staging areas.

The triggers used to initially identify the GIS version of Alternative 2 route designations involved the use of a series of resource-based criteria to determine potential need for minimization strategies and mitigation responses, and which would be most appropriate to accomplish the objectives of Alternative 2.

The triggers used to help determine whether a route or feature requires minimization and mitigation under Alternative 2 are provided in Table 2.3-4.

Table 2.3-4. GIS Minimization Triggers under Alternative 2

Criterion	Resource/Topic	Trigger Evaluation for Minimization and Mitigation
1	Soil Resources	10 percent or greater slope for 50 percent of route length, or significant erosion issues documented
	Riparian Areas	Route within 50 feet of riparian resources
	Springs	Route passes within 300 feet of a spring
	Desert washes	Route parallel to and predominantly within a wash
	Protected Vegetation Resources	Route within an ACEC designated for protection of vegetation resources
	Rare Plant Species	Route passes through a rare plant area
	Special Status Plant Species	Route passes through special status plant species habitat
	Air Quality	Route within 1 mile of sensitive receptor, or within 300 feet of a residence
	Cultural Resources	Route 50-300 feet from a cultural resource
	Cultural Resources	Route within 50 feet of a cultural resource
	Cultural Resources	Route within tribal area

Table 2.3-4. GIS Minimization Triggers under Alternative 2

Criterion	Resource/Topic	Trigger Evaluation for Minimization and Mitigation
	Grazing	Route within 30 feet of a range improvement
	Safety (preamble)	Route within 100 feet of abandoned mine or other identified safety issue
	Lands inventoried for wilderness characteristics	Route within a review area
2	Tortoise Habitat	Route within a DWMA designated for protection of desert tortoise
	Protected Wildlife Resources	Route within an area designated for protection of wildlife resources
	Golden Eagles	Route within ½ mile of golden eagle nest
	Mohave Ground Squirrel	Route within Mohave Ground Squirrel Core Area
	Wildlife Corridors	Route passes through an identified wildlife corridor
	Special Status Wildlife Species	Route passes through special status wildlife species habitat
3	Route Connections	Route ends at a jurisdictional boundary or at private property
	Designated Trail	Route intersects a designated trail
	Special Recreation Permits	Route used for or intersects Special Recreation Permit area
	Multiple User Conflicts	Route has multiple users which conflict with each other
	Disturbance Hotspots in DWMA	Route is located in a hot spot or highly disturbed area within a DWMA.
	Disturbance Hotspots outside of DWMA	Route is located in a hot spot or highly disturbed area outside of DWMAs.
	ACEC	Route is currently designated in an ACEC/Activity Plan not identified above.
	Administrative Access	Route is authorized for administrative access
	Authorized Access	Route is authorized to specific user
	Noise	Route within 1 mile of sensitive receptor, or within 300 feet of a residence
4	Visual Resource Inventory (VRI) Class	Most of route is located in VRI II, and route was previously unknown or undesignated
	Wilderness	Route intersects with Wilderness boundary
	Wilderness Study Area	Route intersects with Wilderness Study Area boundary

Route-specific public scoping comments were available in GIS during the review process, and for routes which have multiple user conflicts, the designation would generally be deferred to the non-motorized or non-mechanized user over the motorized user under Alternative 2, to further minimize impacts to surrounding wildlife habitat.

In addition to resources for which minimization and mitigation triggers were developed, the GIS geodatabase in which route and resource information were evaluated contained data for numerous other specific resources. This additional data was available to BLM resource specialists for consideration when identifying minimization strategies or mitigation measures to

individual routes and features. In addition, the data allows the resource conflicts of the designated travel network within each alternative to be quantified. These quantitative resource conflicts are presented in the impact analysis of each alternative in Chapter 4 of this Draft SEIS.

The transportation network which resulted from this process for Alternative 2 is shown in Figure 2.3-4. The total mileage of the designated travel network and the transportation linear disturbances for each alternative, including Alternative 2, is summarized in Table 2.4-1.

The Alternative 2 network places an increased focus on the use of one specific strategy—closure—in order to minimize impacts to biological, cultural, and other non-biological sensitive natural resources and values, and minimize conflicts between uses. For previously existing, undocumented linear features that were identified in the 2013 inventory update, the default designation is for the feature to be designated as a transportation linear disturbance, unless a specific rationale identifies that a different designation would substantially enhance the network[4]. This approach is conservative, minimizing the number of previously undocumented routes designated "open" in the network, providing a second review of the current network based on the objectives for this alternative, and focusing on the use of route closure as the strategy for resolution potential route-specific and area-specific resource conflicts identified through the evaluation process. Alternative 2 network emphasis includes:

- Additional overall minimization of surface disturbance towards the longterm enhancement of watersheds, wildlife habitat, and other natural and cultural resources in the WEMO Planning area.
- Through-access oriented designation of routes.
- Area-wide route minimization across all public lands.
- Closure-focused route strategy.
- 4,293 miles of motorized routes.

Network-Wide Minimization Strategies under Alternative 2

The following landscape or use strategies, summarized in Table 2.3-5, were utilized in the development of Alternative 2 to minimize impacts. Additional specific parameters for each travel management area may be included in the proposed travel management plans.

Table 2.3-5. Network-Wide Minimization under Alternative 2

Issue	Minimization Strategies
Minimization of T&E impacts	Consultation with Fish and Wildlife Service and issuance of a biological opinion. Per 2006 WEMO Plan, 1% allowable new ground disturbance within DWMAs.
Minimization of Sensitive Species impacts	Per 2006 WEMO Plan, 1% allowable new ground disturbance within MGS Core Areas, and specific Sensitive plant species ACECs (Table 2-11, 2005 WEMO FEIS).

[4] This is generally the case for Alternative 2 even when a minimization threshold does not trigger closure of the previously existing, undocumented route that was identified and evaluated.

Table 2.3-5. Network-Wide Minimization under Alternative 2

Issue	Minimization Strategies
Minimization of AQ impacts	Consultation with AQMD and SIP Conformity Evaluation. Additional new ground disturbance limits may be adopted as proposed in other programmatic strategies (e.g., DRECP) and the overall goals of the 2006 WEMO Plan and WMRNP goals, without further amendment.
Minimization of Cultural impacts	Programmatic Agreement with CA SHPO and ACHP.
New routes[1] subject to allowable ground disturbance limitations	Subject to additional disturbance parameters in DWMA MGS Core Areas, and specific ACECs identified above, which may be further extended through other programmatic analyses. Also subject to plan amendment parameters in Section 2.6.
Route Closures	Routes that were closed under the 2006 WEMO Plan were re-evaluated for designation in Alternative 2, but only made available for use in a limited number of cases.
Newly Identified Routes	Routes that were not evaluated under the 2006 WEMO Plan evaluated for designation in Alternative 2, but only made available for use in a limited number of cases based on key network or resource needs or issues, and subject to minimization unless there were no conflicts with Alternative 2 designation criteria.
Stopping	Limited to within 50 feet from route centerline both inside and outside DWMAs.
Parking	Limited to within 50 feet from route centerline both inside DWMA and outside DWMAs.
Camping/ Second Vehicle Staging	Limited to previously disturbed, adjacent areas within 50 feet from route centerline both inside DWMA and outside DWMAs, except in limited cases to minimize impacts to sensitive resources (designated camping/vehicle staging areas).
Permitted Events	Speed events limited to OHV Open Areas, and on designated "C" routes outside of DWMAs and ACECs seasonally only. Non-speed motorized events in DWMAs limited to routes designated in permit, with seasonal limitations. Non-motorized events are route specific, available on Open Routes unless otherwise specified in the permit.
Motorized Use of Washes	Motorized use limited to the those designated in the travel network.
Motorized Use of Lakebeds (those specifically designated in CDCA Plan)	Add Koehn, Cuddeback, Coyote, and Chisholm Trail lakebeds to the list of designated Lakebeds. Close Koehn Lakebed, except by permit; keep as limited motorized use on Cuddeback, Coyote, and Chisholm Trail Lakebeds to designated through routes or authorized activities.
Motorized Use of Lakebeds (those not already specifically designated in CDCA Plan, the 2006 WEMO Plan Amendment, or this document.)	Limited to designated through routes, as further constrained in applicable ACEC Management Plans.

Post-Designation Implementation Strategies under Alternative 2

Specific components to implement the planning goals and objectives, including the route designations, of Alternative 2 include:

1. Other Resources and Uses
   a. Emphasize resource conservation and enhancement goals in the development of plan parameters, transportation management plans, and implementation of the network and develop additional strategies to enhance on-the-ground capabilities;
   b. Incorporate proposed and adopted DRECP route parameters, in order to enhance conservation goals and objectives;
   c. Give special attention to limiting non-essential multiple uses in special areas (WSA, ACEC, NRHP listed and eligible sites, Tribal Areas, Riparian Areas, etc.), and give special attention to the specific factors that have driven the identification and management of the areas, and associated access strategies; and
   d. Utilize route closure as a key measure to minimize resource and use conflicts on the remaining route network, unless otherwise identified in the goals and objectives.
2. Primary Travelers
   a. Manage access to de-emphasize casual multiple-use motorized and mechanized touring;
   b. Focus access to major recreational and non-recreational destinations that are not experiencing undue access-related impacts;
   c. Otherwise emphasize through-access on public lands to establish a comprehensive network;
   d. Consider a limited number of manageable loop trails that minimize loss of sensitive resources; and
   e. Emphasize joint-use over single-use trails (e.g, multiple types of vehicles) to limit habitat disturbance and concentrate use in less sensitive or more manageable areas.
3. Emerging Uses
   a. Emphasize limiting access to authorized uses only (rights-of-way, easements, range improvements, guzzler maintenance, mining, etc) where closure is not appropriate in sensitive areas; and
   b. Have the route network support current, and provide mechanisms to respond to new, landscape-level conservation goals and strategies and newly identified sensitive resources.
4. Landscape Settings
   a. Maintain, and, as appropriate enhance a diverse range of visual settings in the designation and management of the back-country network, with attention to special areas and consistent with other goals and objectives;
   b. Focus on maintaining recreational settings in the designation and management of the front-country network closer to urban centers, where appropriate.
5. Means of Travel Allowed to Accomplish Objectives
   a. Convert from year around motorized access opportunities to seasonal or non-motorized opportunities, that lead to sensitive points of interest, where appropriate; and

b. Limit competitive motorized events to OHV Open Areas, or existing designated "C" routes, by special-recreation permit only. Further limit the permitted use of these designated "C" routes seasonally. No "C" routes would be designated through DWMAs or other ACECs. Other Open routes would not be available for motorized competitive events. Non-motorized events would be assessed on a case-by-case basis.

6. Social Conflicts Between Different Travel Types

   a. Focus on joint use of through-access routes for visitors, permittees, local residents, and property owners, consistent with other agencies, state and local governments, where feasible;

   b. Consider State and County-maintained Road plans when identifying access points to major roads;

   c. Identify existing easements for joint use routes, as needed; and

   d. Utilize minimization and mitigation measures (e.g., signing, fencing, closing routes, where appropriate) to address other known safety issues, conflicts between users, and impacts to sensitive resources.

7. Numbers and Types of Access Points

   a. Consider dedicated camping, staging and/or parking areas only in order to minimize overall size and/or impact of the area where stopping, parking, and camping (SPC) occurs adjacent to routes in sensitive areas. Camping, staging, and parking areas through sensitive locations may be further restricted based on changing conditions, as needed.

   b. Eliminate or reduce motorized access through disturbance hotspot areas;

   c. Develop partnerships or pursue area-specific strategies to address disturbance hotspots and reduce unauthorized use, as appropriate;

   d. Limit access points to manage sensitive resource and social impacts; and

   e. Develop strategies to identify and publicize where these access points are and how to get to them.

8. Baseline System and existing Geographical Identity and Public Knowledge

   a. Maintain an accurate route inventory for management purposes, maintain an accurate network for the production of both general and recreation specific Transportation Management Network maps, and make maps available to the public through a wide variety of means, including electronic means;

   b. Pursue reciprocal easements and utilized existing public easements to facilitate management of the primary access network and routes to major destinations; and

   c. Develop site-specific strategies at popular and sensitive destinations that are experiencing substantial impacts from access, where appropriate.

9. Non-Casual Uses

   a. Identify and direct ROW and other authorized activities to existing corridors/sites, when reasonable;

b. Continue to add existing VER to the network with appropriate limitations and mitigation, consistent with the goals of this alternative. Site-specific issues would be resolved under the terms of the authorization, in consultation with the permit or right-of-way holder.

c. Emphasize limited access and rehabilitation for commercial uses that are not major regional or interstate linear routes, when the authorization term expires; and

d. Emphasize joint use of routes by multiple ROW holders when appropriate.

10. Boundaries for Management

a. Adopt eight travel management areas (TMA) to implement the route network; and

b. Manage access in each of the Travel Management Areas (TMA) to conserve sensitive resource values and areas, including sensitive biological, cultural, and other factors, consistent with the CDCA Plan as modified by the 2006 WEMO Plan and adopted ACEC Plans.

Future changes to the network would be developed consistent with these goals and objectives, and specific direction in travel management plans. General implementation direction includes:

Table 2.3-6. Draft Implementation Strategies

Implementation Priorities	Open routes to be signed as open and maintained, develop and publish maps, and other actions per the priorities identified in the travel management plans, based on key resource values and conflicts in each area.
Rehabilitation Priorities	Per the priorities identified in the travel management plans, to be established based on immediacy of risk and the number of resources affected. Focus on routes within DWMAs and ACECs, affecting listed cultural sites, riparian areas, areas with sensitive receptors, areas with sensitive species, and areas with erosion issues.
Minor Route Network Changes	Minor changes to generally be identified and covered in travel management plans, considering designation thresholds and responses, necessary to avoid sensitive resources or impacts, private access and new rights-of-way needs, address small acquisitions, increase the quality of a recreation experience, and realignment needs. See Section 2.6
Major Route Network Changes	Requires associated subregion or TMA goals evaluation and NEPA review, and would include those which substantially alter transportation patterns in a subregion, are inconsistent with the alternative goals, large acquisitions with multiple access options, and addition of substantial routes to the current network that are not part of larger project review. See Section 2.6.

More specific parameters for each travel management area would be included in the proposed travel management plans.

Monitoring and Adaptive Management

Under Alternative 2, monitoring and rehabilitation priorities in the Route Signing Plan posted at http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html, would be adjusted based on new information. The court ordered monitoring would continue, under the existing protocol, consistent with the details of the protocol, as amended. The priorities for implementation are based on a combination of factors including biological, wilderness, cultural, proximity to urban interface, and readiness, which would continue to be general guidance. Travel management plans would provide more specific guidance within the Subregions. The basis of the biological priorities is outlined in more detail in the 2005 WEMO FEIS, page 2-164. These would be augmented with additional priorities related to other sensitive resources, particularly in special areas or where critical needs have been identified by staff and management. In addition to higher use DWMA areas, DWMA adjacent to OHV Open Areas, and higher density tortoise areas, critical ACEC resources, adversely affected riparian areas and springs, and at-risk listed and eligible cultural properties would be high priorities.

In addition, BLM would continue to seek funding opportunities and other resources to expand the current education and outreach community partnership and other partnerships in the WEMO area.

Under Alternative 2, the parameters for route network changes for the WEMO Planning area would be updated to reflect actual operational needs and provide for adjustment of the network, consistent with parameters in the travel management plans and general thresholds for plan amendment changes outlined in Section 2.7. Opening or closing routes would be subject to appropriate NEPA compliance in all cases, including associated consultations, except in the case of emergencies, in which case NEPA would be completed consistent with regulatory requirements. These changes would occur consistent with the goals of the 2006 WEMO Plan.

2.3.4 Alternative 3: Public Lands Access Maintenance

The LUP-level decisions that would be made under all action alternatives, including Alternative 3, are described in subsection 2.1. The goals and objectives that would be established under Alternative 3 are described in subsection 2.2. Subsection 2.3 summarizes the process used to develop the alternative route network under all alternatives.

Plan Amendment under Alternative 3

Under Alternative 3, the five proposed plan amendment decisions (PA I – PA V) that are common to all action alternatives, and are described in subsection 2.1.2, would be made.

Of the six proposed plan amendment decisions (PA VI – PA XI) that would vary among alternatives, the following decisions would be made under Alternative 3:

VI. Alternative 3 would delineate eight Travel Management Areas (TMAs) and associated modes of access and travel. The boundaries of the eight TMAs are shown in Figure 2.3-2, and are summarized in Table 2.3-3.

VII. Under Alternative 3, there would be "C" routes available for competitive motorized races managed under a Special Recreation Permit year-round outside of ACECs, including outside of DWMAs (see Table 2-2 of the 2005 WEMO FEIS) in three

distinct areas to enhance riding opportunities out of the smaller Spangler Hills OHV Area and partially offset the loss of similar riding opportunities in the Johnson Valley OHV Area, and to connect the Spangler Hills OHV Area to the community of Ridgecrest. These three areas are: to the northeast of the Spangler Hills OHV Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills OHV Open Area.

The Johnson Valley to Parker Valley Race Corridor would be deleted and may be offset by additional "C" routes in the planning area outside of DWMAs and other ACECs that are identified as open "C" routes through the route designation process, consistent with TMA goals.

VIII. Alternative 3 would add Koehn, Cuddeback, Coyote, and Chisholm Trail Lake lakebeds to the list of designated Lakebeds. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would be designated "Open" to motorized use, subject to area specific minimization measures.

IX. In Alternative 3, the permit system established for motor-vehicle access to the Rands Mountains-Fremont Valley Management area would be replaced with a limited designated network that is intensively managed. Initial management parameters would be identified in the travel management plan. Other general ACEC parameters would remain unchanged from the No Action alternative.

X. Alternative 3 would continue to limit camping to previously disturbed areas adjacent to routes within 50 feet from the route centerline inside DWMAs. Stopping and parking would continue to be limited to within 50 feet of the centerline within DWMAs, except as site-specifically designated. Outside of DWMAs, camping would be further limited to previously disturbed areas adjacent to routes within 100 feet from the route centerline, while stopping and parking would be limited to within 100 feet of centerline, except as site-specifically designated.

XI. Livestock grazing in active allotments would not change. Currently inactive, vacant allotments in DWMAs and other desert tortoise habitat would be unavailable for grazing in their entirety. These include the Buckhorn Canyon, Harper Lake, Cronese Lake, Cady Mountain, Johnson Valley, Double Mountain and Oak Creek Allotments. There would be a reallocation of forage attributable to 343,576 acres for livestock grazing to wildlife use and ecosystem functions within these allotments. See Table 2.4-3 in section 2.4 for a comparison of acres between alternatives that would be available for grazing.

Implementation Decisions for Route Designation/Minimization under Alternative 3

Routes and linear features in the 2013 route inventory were reviewed against the 43 CFR 8342.1 criteria for possible inclusion in the Alternative 3 travel network. The designations for routes in this alternative reflect the overall goals and objectives of Alternative 3, and provide all routes equal consideration for inclusion in the route network, including those that were not included in the inventories used for the 2006 WEMO Plan, and therefore were not evaluated under the

designation criteria and considered while developing the 2005 WEMO FEIS route network. The following parameters were also used for identifying the preliminary Alternative 3:

a. Stopping, parking and camping (SPC) parameters are further limited outside of DWMAs, specific to Alternative 3 (see plan amendment IX), and used to further focus the impacts from criteria resources and the need for additional minimization strategies and mitigation measures, except as identified for designated locations.

b. For the preliminary Alternative 3, routes in the OHV Limited Areas designated as "Closed" in the 2006 WEMO Plan decision would be initially identified as "Transportation Linear Disturbances" under Alternative 3, subject to route-specific review.

c. In the preliminary Alternative 3, routes in OHV Limited Areas designated as "Open" in the 2006 WEMO Plan, but which may have resource or other designation criteria conflicts, would not receive an initial identification. They would be highlighted to focus route-specific review for the identified conflicts and to determine whether to minimize impacts through changing their route designations or to keep them available for public use and identify appropriate mitigation measures.

d. In keeping with the access focus of Alternative 3, this alternative defaults to maintaining current and historic public access, including on features which were not designated in 2006 (i.e., features that were added in 2013 as a result of the on-the-ground and GTLF inventory update). These features would be treated as currently designated routes in the network (no designation). Routes in OHV Limited Areas which were "Open" or which were NOT designated in the 2006 WEMO Plan, and which have no resource conflicts identified or do not otherwise trigger the need for minimization of impacts under the 43CFR 8342.1 designation criteria would be initially identified as "Motorized" (available for all travelers, including non-motorized or non-mechanized users), subject to route-specific review.

e. Routes designated as "Limited" in the 2006 WEMO Plan are initially identified as "Motorized-Authorized" or "Motorized-Administrative" (specific to the limitation), as applicable, subject to route-specific review. Many Motorized-Authorized routes have undergone site-specific review and mitigation associated with a permit or other authorization. If conflicts are identified, these route features again would be highlighted, in order to focus the route-specific review for the identified conflicts. These conflicts would also be factored into determining whether routes would be available for public use and appropriate mitigation measures associated with route use.

f. Under Alternative 3, a the designation of route ending at a jurisdictional boundary or private property would generally be initially designated in a similar manner as those in Alternative 2 unless a range of options presented itself, consistent with the designation criteria.

g. For routes used for, or intersecting, a Special Recreation Permit (SRP) area, the route would generally be initially modified to match the form of SRP use (e.g., non-motorized for mountain bike use). In the case where multiple types of SRP use exist, the route designation in this alternative would initially be the most inclusive designation, consistent with the minimization criteria. If the route intersected an SRP area, the route would be

initially designated as motorized to provide access to the area. Additional mitigation measures would be included as necessary to address criteria resources, and adjustments would be made based on site specific review.

h. For routes which have multiple user conflicts, the initial designation deferred the designation to the motorized user over the non-motorized or non-mechanized user under Alternative 3, consistent with the designation criteria. If the conflict was between forms of motorized users, the designation deferred to smallest vehicle (i.e., motorcycle above four-wheel drive vehicle). Generally the other options would be captured in Alternative 2 and Alternative 4 to give a full range of alternatives, if appropriate. Additional mitigation measures would be identified as needed.

i. Under Alternative 3, routes intersecting a national designated trail would also be designated in a similar manner as Alternative 2, unless a range of options presented itself. If the route provides access to a trailhead, it would be designated as motorized, unless there were no parking or staging area, or if the route is located a distance from the designated trail, consistent with the designation criteria. If the route conflicted with trail use, such as traveling parallel to the trail, then it would generally be designated as a transportation linear disturbance (closed). Additional measures would be identified as needed. This alternative may be further adjusted to conform it with strategies for motorized access setbacks from designated trails as currently proposed in the Draft DRECP and available at http://www.blm.gov/ca/st/en/prog/energy/DRECP/policy.html.

j. For routes located in a disturbance hotspot within sensitive areas, the route would be initially identified as a transportation linear disturbance (closed), except as needed to maintain connectivity of the network or to access key resource and recreational sites, in order to minimize impacts to air quality and prevent additional habitat disturbance to the area. For routes located in a disturbance hotspot outside of sensitive areas that would otherwise be "Open", the route designation was initially identified as "Open" and site-specifically reviewed. Where appropriate, at least one motorized route was maintained in the various directions, unless a designation of transportation linear disturbance (closed) was needed to improve manageability of the area. If additional conflicts existed, depending on the severity, an entire area of routes may have been closed or open with mitigation measures. A few hotspots may be identified as potential staging or camping areas under Alternative 3. Disturbance hotspots are areas which have a significant density of routes within a very small area, such as historic vehicle play or staging areas.

The triggers used to initially identify the GIS version of Alternative 3 route designations are identified below. The triggers are also used to determine whether a route or feature requires minimization and mitigation under Alternative 3 and Alternative 4 are provided in Table 2.3-7.

Table 2.3-7. Criteria Triggering Minimization & Mitigation under Alternative 3 and Alternative 4

Criterion	Resource/Topic	Minimization and Mitigation Trigger
1	Soil Resources	10 percent or greater slope for 75 percent of route length, or significant erosion issues documented
	Riparian Areas	Route within 50 feet of riparian resources
	Springs	Route passes within 300 feet of a spring
	Desert washes	Route parallel to and predominantly within a wash

Table 2.3-7. Criteria Triggering Minimization & Mitigation under Alternative 3 and Alternative 4

Criterion	Resource/Topic	Minimization and Mitigation Trigger
	Protected Vegetation Resources	Route within an area designated for protection of vegetation resources
	Rare Plant Species	Route passes through a rare plant area
	Special Status Plant Species	Route passes through special status plant species habitat
	Air Quality	Route within ¼ mile of sensitive receptor, or within 300 feet of a residence
	Cultural Resources	Route within 50-100 feet of a cultural resource
	Cultural Resources	Route within 50 feet of a cultural resource
	Cultural Resources	Route within tribal area
	Grazing	Route within 30 feet of a range improvement
	Safety	Route within 100 feet of abandoned mine or other identified safety issue
	Lands inventoried for wilderness characteristics	Route within a review area
2	Tortoise Habitat	Route within a DWMA designated for protection of desert tortoise
	Protected Wildlife Resources	Route within an area designated for protection of wildlife resources
	Golden Eagles	Route within ½ mile of golden eagle nest
	Mohave Ground Squirrel	Route within Mohave Ground Squirrel Core Area
	Wildlife Corridors	Route passes through an identified wildlife corridor
	Special Status Wildlife Species	Route passes through special status wildlife species habitat
3	Route Connections	Route ends at a jurisdictional boundary or at private property
	Designated Trail	Route intersects a designated trail
	Special Recreation Permits	Route used for or intersects Special Recreation Permit area
	Multiple User Conflicts	Route has multiple users which conflict with each other
	Disturbance hotspots in DWMA	Route is located in a hot spot or highly disturbed area within a DWMA.
	Disturbance hotspots outside of DWMA	Route is located in a hot spot or highly disturbed area outside of DWMAs.
	Route Designation	Route is currently designated in an ACEC/Activity Plan
	Administrative Access	Route is authorized for administrative access
	Authorized Access	Route is authorized to specific user
	Noise	Route within ¼ mile of sensitive receptor, or within 300 feet of a residence
4	Visual Resource Inventory (VRI) Class	Most of route is located in VRI II, and route was previously unknown or undesignated
	Wilderness	Route intersects with Wilderness boundary
	Wilderness Study Area	Route intersects with Wilderness Study Area boundary
	ACEC	Route is within or intersects with ACEC boundary

The transportation network associated with Alternative 3 is shown in Figure 2.3-5. The total mileage of the designated travel network and the transportation linear disturbances for each alternative, including Alternative 3, is summarized in Table 2.4-1.

The transportation network under this alternative focuses on maintenance of access to serve multiple-use management, where such access is consistent with regulatory criteria and policies for natural and cultural resource and multi-species conservation. For previously existing, undocumented linear features identified in the 2013 inventory update, the default is for the designation of the feature and minimization and mitigation measures to be considered within the context of potential resource conflicts. This approach focuses on the use of other minimization strategies and mitigation measures, as opposed to route closure, as the primary strategy for resolution of identified resource conflicts, where feasible.

- Destination- and Touring-access oriented designation of routes.
- Area-wide minimization across all public lands.
- Recreation/Conservation Balanced minimization and mitigation strategy.
- Broad network-opportunities
- Site-specific problem-focused implementation.
- 10,428 miles of motorized routes.

Network-Wide Minimization Strategies under Alternative 3

The following landscape or use strategies, summarized in Table 2.3-8, were utilized in the development of Alternative 3 to minimize impacts. Additional specific parameters for each travel management area may be included in the proposed travel management plans.

Table 2.3-8. Network-Wide Minimization Strategies under Alternatives 3 and 4

Issue	Minimization and Mitigation Measure
Minimization of T&E impacts	Consultation with Fish and Wildlife Service and issuance of a biological opinion. Per 2006 WEMO Plan, 1% allowable new ground disturbance within DWMAs, No limit on ground disturbances outside DWMAs or other biological sensitivity areas, but may be extended as proposed in other programmatic strategies as identified below.
Minimization of Sensitive Species impacts	Per 2006 WEMO Plan, 1% allowable new ground disturbance within MGS Core Areas, and specific Sensitive plant species ACECs (Table 2-11, 2005 WEMO FEIS). No limit on ground disturbances outside DWMAs or other biological sensitivity areas, but may be extended as proposed in other programmatic strategies as identified below.
Minimization of AQ impacts	Consultation with AQMD and SIP Conformity Evaluation. 1% allowable new ground disturbance parameters. Additional new ground disturbance limits

Table 2.3-8. Network-Wide Minimization Strategies under Alternatives 3 and 4

Issue	Minimization and Mitigation Measure
	may be adopted as proposed in other programmatic strategies (e.g., DRECP) and the overall goals of the 2006 WEMO Plan and WMRNP goals, without further amendment.
Minimization of Cultural impacts	Programmatic Agreement with CA SHPO and ACHP.
New routes subject to allowable ground disturbance limitations in DWMA, MGS Core Areas, and specific ACECs	Subject to 1% allowable new ground disturbance parameters, which may be further tightened through other programmatic analyses. Also subject to plan amendment parameters in Section 2.6.
New routes subject to allowable ground disturbance limitations outside of DWMA, MGS Core Areas, and specific ACECs with disturbance limitations	Additional limitations may be developed for other sensitive resources, without further amendment, as part of the adaptive management strategy and consistent with 2006 WEMO Plan and TMA goals.
Route Closures	Routes that were evaluated and designated as "Closed" under the 2006 WEMO Plan were initially identified as closed in Alternatives 3 and 4, subject to route-specific review.
Newly Identified Routes	All routes were evaluated using the same designation criteria in Alternatives 3 and 4. In Alternative 3, no initial designation was assigned to newly identified routes; preliminary designations resulted from the initial GIS analysis, and those with conflicts were highlighted. The site specific review focused on these issues and other site-specific input. In Alternative 4, routes not included in the 2006 network were initially identified as closed, except for initial changes based on identified issues and needs. This network was then subject to route-specific review, focusing on identified conflicts.
Stopping	Except as site-specifically designated, limited to previously disturbed areas within 50 feet from the route centerline inside DWMAs, and previously disturbed areas within 100 feet from the route centerline outside DWMAs.
Parking	Except as site-specifically designated, limited to previously disturbed areas within 50 feet from the route centerline inside DWMAs, and previously disturbed areas within 100 feet from the route centerline outside DWMAs.
Camping/ Second Vehicle Staging	Except as site-specifically designated, limited to previously disturbed areas adjacent to routes within 50 feet from the route centerline inside DWMAs, and previously disturbed areas adjacent to routes within 100 feet from the route centerline outside DWMAs Parameters for specifically designated camping and staging areas are identified on a site-specific basis both for conservation purposes and for recreational enhancement.

Table 2.3-8. Network-Wide Minimization Strategies under Alternatives 3 and 4

Issue	Minimization and Mitigation Measure
Permitted Events (Alternatives 3 and 4 vary)	Speed events are limited to designated "C" routes outside of OHV Open Areas. Non-speed motorized events in DWMAs and ACECs are limited to routes designated in the Permit. Alternative 3 also includes seasonal or monitoring limitations, which are location specific. Alternative 4 limits the designated "C" routes to specifically identified areas. Non-motorized permitted events are available on Open Routes unless otherwise specified. All events are subject to NEPA compliance and permit requirements, and may require consultation with other agencies.
Motorized Use of Washes	Motorized use limited to the motorized routes designated travel network.
Motorized Use of Lakebeds (those specifically designated in CDCA Plan)	Add Koehn, Cuddeback, Coyote, and Chisholm Trail lakebeds to the list of designated Lakebeds. "Close" Koehn Lakebed except as authorized in a land-use or special-recreation permit. Designate as "Open" Cuddeback, Coyote, and Chisholm Trail Lakebeds to motorized use, subject to appropriate minimization measures.
Motorized Use of other Lakebeds (those not already specifically designated in CDCA Plan, the 2006 WEMO Plan Amendment, or this document.)	Limited to designated through routes, except as further constrained in ACEC Management Plans.

Post-Designation Implementation Strategies under Alternative 3

Specific components of Alternative 3 to implement the planning goals and objectives include:

1. Other Resources and Uses

   a. Support resource conservation and enhancement goals while providing opportunities to experience the desert's unique resource values in the plan parameters and the development and management of the network;

   b. Give special attention to the goals in special areas (WSA, ACEC, NRHP sites, Tribal Areas, Riparian Areas, Special Recreation Management Areas, etc.), and the specific factors that have driven the identification and management of the areas, and associated access strategies;

   c. Conform to proposed and adopted DRECP route paramters, in order to enhance conservation goals and objectives and provide consistent proposed management strategies;

   d. De-emphasize route closure as a primary means to minimize resource and use conflicts on the remaining routes selected for the network, where consistent with area goals; and

   e. Emphasize regional, network and tiered measures to minimize conflicts, including those which are consistent with or enhance similar strategies of other jurisdictions.

2. Primary Travelers
   a. Manage access to emphasize casual multiple-use motorized and mechanized touring.
   b. Provide access to recreational and non-recreational destinations that are not experiencing undue access-related impacts.
   c. Expand the current "C" network to enhance riding opportunities in and around the City of Ridgecrest, and connect to the Spangler Hills Open Area in and around the City of Ridgecrest, to add topographic diversity, provide technically challenging opportunities to riders of all skill levels, facilitate long distance OHV competitive events, link the community of Ridgecrest and the Spangler Hills OHV Open Area, and partially offset Johnson Valley OHV Area competitive event opportunities lost with the expansion of the Tweny-Nine Palms Marine Corps Air Combat Center (29 Palms Base). This would include approximately 20-30 miles of routes in each of the Summit Range area and the area east of Highway 395 along with the area to the northeast of the OHV Open Area as identified in the Spangler Hills OHV Area Management Plan (1992).
   d. Identify a link between the Outlet Center Mall in Barstow to the Stoddard Valley OHV Open Area via a connector route.
   e. Identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Area, with appropriate minimization and mitigation measures. This connector was adopted in the 2006 WEMO Plan, but no specific route was ultimately delineated.
   f. Identify a connector loop between the two remaining pieces of the Johnson Valley OHV Area, with appropriate minimization and mitigation measures. As needed coordinate with the 29 Palms Base to facilitate completion of the loop. This may require some minor rerouting, with appropriate NEPA/ESA/Section 106 compliance, along the current Right-of-Way boundary with the Base.
   g. Consider some linear and loop trail opportunities in sensitive areas that do not have substantial evidence of unauthorized use and include strategies that minimize unauthorized use and potential impacts to sensitive resources.
   h. Balance joint-use and single-use trails (e.g, multiple types of vehicles or ways of travel) to enhance opportunities for unique recreational experiences; and
   i. In less sensitive areas, provide for a reasonable amount of recreational and touring opportunities, in addition to providing through-access on public lands to establish a comprehensive network.
3. Emerging Uses
   a. Consider emerging access and access-dependent needs in development and management of the network; and
   b. Have the route network support landscape-level conservation and use goals and strategies.

4. Landscape Settings
   a. Maintain a diverse range of visual experiences in the development and management of the network, where appropriate, with special attention to special areas and destinations, consistent with other goals and objectives; and
   b. Maintain or enhance recreational settings in the development and management of the network, where appropriate.
5. Means of Travel Allowed to Accomplish Objectives
   a. Provide an array of diverse and unique uses at recreation destinations, where appropriate; and
   b. Competitive motorized events would be allowed to occur outside of OHV Open Areas under Special Recreation Permit on routes specified for such use as identified in the TMP route network strategies.
6. Social Conflicts Between Different Travel Types
   a. Provide for joint use of through access for visitors, local residents, and property owners if unique user opportunities are not the focus of the area or routes, consistent with other agencies, state and local governments, where appropriate;
   b. Provide additional access opportunities to underserved motorized or non-motorized recreation types insofar as it is consistent with other objectives;
   c. Identify existing easements for joint use routes, as possible; and
   d. Utilize minimization and mitigation measures (e.g., signing, fencing, education, closing routes, where appropriate) to address known safety issues, conflicts between users, and impacts to resources.
7. Numbers and Types of Access Points
   a. Emphasize SPC adjacent to routes, consistent with network parameters, unless in heavily impacted or popular areas. In heavily impacted, sensitive areas and popular areas consider dedicated SPC or other strategies. These may extend beyond standard SPC to limit impacts to sensitive resources, to maintain widely dispersed off-route use, or to connect popular areas to communities.
   b. Identify designated SPC areas and trailheads on previously disturbed areas that connect with the designated route network. Designated areas would include appropriate signing and access restrictions in order to limit proliferation, subject to site-specific analysis.
   c. Any race staging area for (C) routes would continue to be limited to MUC Intensive (Class I) lands, and pit areas would be limited to those areas analyzed as such in compliance with NEPA, Section 106, and ESA compliance.
   d. Identify SPC designated areas near the Cerro Coso Community College and the Desert Empire Fairgrounds in the City of Ridgecrest in support of the Spangler Hills OHV Area connector, and near the Outlet Mall in the City of Barstow in support of the Barstow to Stoddard Valley OHV Area connector, as needed.

e. Consider SPC designated areas along Hoffman Road in the Fremont-Kramer DWMA, within the Superior-Cronese DWMA in the Coolgardie area, within the Superior-Cronese DWMA in the Black Mountain area, and within the Juniper Flats Subregion near the USFS boundary, and at other identified locations, subject to site-specific analysis and consistent with the goals of this alternative and route designation criteria.

f. Reduce motorized access through sensitive areas with disturbance hotspots;

g. Develop partnerships or pursue area-specific strategies to address disturbance hotspots and reduce unauthorized use, as appropriate;

h. Limit access points in high conflict areas to manage sensitive resource and social impacts; and

i. Develop strategies to identify and publicize where access points are and how to get to them.

8. Baseline System and existing Geographical Identity and Public Knowledge

   a. Maintain an accurate route inventory for management purposes, and for the production of both general and recreation specific Transportation Management Network maps, and make those maps available to the public through electronic means;

   b. Pursue reciprocal easements and utilize existing public easements to facilitate management of the primary access network; and

   c. Develop site-specific strategies at popular and sensitive destinations that are experiencing substantial impacts from access, where appropriate.

9. Non-Casual Uses

   a. Identify and direct ROW and other authorized activities to existing corridors/sites, when reasonable;

   b. Continue to add existing VER to the network with appropriate limitations and mitigation, consistent with the goals of this alternative. Site-specific issues would be resolved under the terms of the authorization, in consultation with the permit or right-of-way holder.

   c. Consider adding routes to the network that have previously been used for authorized uses if they enhance the network, consistent with other Plan goals, when the authorization terms expire; and

   d. Emphasize joint use of routes by multiple ROW holders, when appropriate.

10. Boundaries for Management

    a. Adopt eight TMAs to implement the route network;

    b. Manage access in each of these TMAs to provide public lands access while minimizing impairment to sensitive resource values and areas, including sensitive biological factors, cultural, and other factors, consistent with all of the CDCA Plan, as modified by the 2006 WEMO Plan;

c. Manage access in each of the TMAs to enhance special areas and identified recreation management goals and facilities within or adjacent to them, consistent with other area goals.

Future changes to the network would be developed consistent with these goals and objectives. General implementation direction is identified in Table 2.3-6. More specific parameters for each travel management area would be included in the proposed travel management plans.

Monitoring and Adaptive Management

Under Alternative 3, monitoring and rehabilitation priorities in the Route Signing Plan posted at http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html, would be adjusted based on new information. The court ordered monitoring would continue, under the existing protocol, consistent with the details of the protocol. The priorities for implementation are based on a combination of factors including biological, wilderness, cultural, proximity to urban interface, and readiness, which would continue to be general guidance. Travel management plans would provide more specific guidance within the Subregions, and may also factor in specific recreational and other access implementation priorities, depending on the area. The basis of the biological priorities is outlined in more detail in the 2005 WEMO FEIS, page 2-164. These would be augmented with additional priorities related to other sensitive resources, particularly in special areas or where critical needs have been identified by staff and management. In addition to higher use DWMA areas, DWMA adjacent to OHV Open Areas, and higher density tortoise areas, critical ACEC resources, adversely affected riparian areas and springs, and at-risk listed and eligible cultural properties would be high priorities.

In addition, BLM would continue to seek funding opportunities and other resources to expand the current education and outreach community partnership and other partnerships in the WEMO area.

Under Alternative 3, the parameters for route network changes for the WEMO Planning area would be updated to reflect actual operational needs and provide for adjustment of the network, consistent with parameters in the travel management plans and general thresholds for plan amendment changes outlined in Section 2.7. Opening or closing routes would be subject to appropriate NEPA compliance in all cases, including appropriate consultations, except in the case of emergencies, in which case NEPA would be completed consistent with regulatory requirements. These changes would occur within the parameters set in the 2006 WEMO Plan.

2.3.5 Alternative 4: Community Access Enhancement

The LUP-level decisions that would be made under all action alternatives, including Alternative 4, are described in subsection 2.1. The goals and objectives that would be established under Alternative 4 are described in subsection 2.2. Subsection 2.3 summarizes the process used to develop the alternative route network under all alternatives.

Plan Amendment under Alternative 4

Under Alternative 4, the five proposed plan amendment decisions (PA I – PA V) that are common to all action alternatives, and are described in subsection 2.1.2, would be made.

Of the six proposed plan amendment decisions (PA VI – PA XI) that vary among alternatives, the following decisions would be made under Alternative 4:

VI. Alternative 4 would delineate nine Travel Management Areas (TMAs) and associated modes of access and travel. The boundaries of the nine TMAs are shown in Figure 2.3-6, The boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. The Rands and Red Mountain sub-regions would remain designated as TMA 7, but the Ridgecrest and El Paso sub-regions would be managed separately as TMA 9.

VII. Under Alternative 4, there would be "C" routes available for competitive motorized races managed under a Special Recreation Permit year-round outside of ACECs, including outside of DWMAS (see Table 2-2 of the 2005 WEMO FEIS) in distinct areas to enhance riding opportunities out of the smaller Spangler Hills OHV Area and partially offset the loss of similar riding opportunities in the Johnson Valley OHV Area. These "C" routes are to the northeast of the Open Area above the Randsburg Wash Road and within the Summit Range and east of Highway 395 and would be managed under a Special Recreation Permit. There are approximately 20 to 30 miles of designated "C" routes in each of these areas. These designated "C" routes were originally identified and approved for use in the Spangler Hills OHV Area Management Plan (1992).

If the Johnson Valley-to-Parker Valley Race route is determined to be no longer viable or otherwise deleted, additional (C) open routes may be designated outside of OHV Open Areas with appropriate NEPA and consistent with the 2006 WEMO Plan and the applicable travel management plan(s).

This alternative would specify a Johnson Valley race or speed-controlled route-connector loop between non-connecting portions of the remaining Johnson Valley OHV Recreational Area to provide a loop corridor that enhances organized vehicle riding opportunities within the Open Area, subject to additional consultations. This may require additional coordination with the Twenty-Nine Palms Marine Corps. Staging and pit areas would be limited to within the Johnson Valley OHV Recreation Area.

VIII. Alternative 4 would add Koehn, Cuddeback, Coyote, and Chisholm Trail Lake lakebeds to the list of designated Lakebeds, and would designate Koehn lakebed as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit", and designate the other three lakebeds as "Open" to motorized vehicles.

IX. Alternative 4 would limit camping to previously disturbed areas adjacent to routes within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs, except as site-specifically designated. Outside of DWMAs, camping would be limited to previously disturbed areas adjacent to routes within 100 feet from the route centerline except as sitepecifically designated, while stopping and parking would be limited to within 100 feet of centerline, except as site-specifically designated.

Where needed, designated SPC, secondary-vehicle staging areas, and trailheads may be identified and evaluated on previously disturbed areas that connect with the designated route network and that extend beyond these parameters, with appropriate signing and access restrictions, in order to limit proliferation in popular or sensitive areas, and subject to site-specific analysis.

X. In Alternative 3, the permit system established for motor-vehicle access to the Rands Mountains-Fremont Valley Management area would be replaced with a limited designated network that is intensively managed. Initial management parameters would be identified in the travel management plan. Other general ACEC parameters would remain unchanged from the No Action alternative.

XI. Livestock grazing would not change in active allotments. Livestock grazing would be discontinued in inactive allotments in DWMAs and CHU. Through this land-use planning change, lands would no longer be available for livestock grazing in three inactive, vacant allotments in their entirety, and a small portion of another consistent with 43 CFR 4130.2 (a). The inactive, vacant allotments include: a small portion of the Johnson Valley Allotment, Cronese Lake and Harper Lake Allotments entirely. The AUMs in the allotments would be reallocated from livestock forage to wildlife use and ecosystem functions. See Table 2.4-3 in Section 2.4 for a comparison of acres available for grazing between alternatives.

Implementation Decisions for Route Designation/Minimization under Alternative 4

Routes and linear features in the 2013 route inventory were reviewed against the 43 CFR 8342.1 criteria for possible inclusion in the Alternative 4 travel network. The designations for routes in this alternative reflect the overall goals and objectives of Alternative 4, and mediate against changes to the designated route network in the absence of specific issues driving changes that are could not be addressed through other measures. The following parameters were used to identify the preliminary Alternative 4:

a. Initial No Action alternative designations were used for Alternative 4, then subject to revision based on issues identified during scoping and network connectivity modifications. These were subject to GIS analysis to highlight potential remaining conflicts under the 43 CFR criteria and to address other issues, prior to site-specific review.

b. SPC parameters were further limited outside of DWMAs, specific to Alternative 4 (see plan amendment IX), and used to further focus the impacts from criteria resources and the need for additional minimization strategies and mitigation measures.

c. Alternative 4 used the same minimization thresholds to highlight these conflicts as Alternative 3 (see Table 2.3-7). However, since Alternative 4 did identify initial designations, the overall inclusion of additional route miles that were not in the 2005 WEMO Plan evaluations is relatively low as compared to Alternative 3.

d. In keeping with the focus of Alternative 4 on community, public, and other access needs and issues, when specific routes do not have new internal or external route-specific feedback, or do not otherwise trigger designation criteria under the 43CFR 8342.1 designation criteria, the preliminary designation does not change from the No Action

Alternative. For routes designated as "Open" or "Limited" in the No Action Alternative, the preliminary designation under Alternative 4 became "Motorized" or "Motorized-Authorized". If other limitations were in place, these would be included in the preliminary designations as well (e.g. Authorized, Administrative, Motorcycle, etc). For routes designated as "Closed" in the No Action Alternative, the preliminary designation under Alternative 4 became "Closed" (i.e.,Transportation Linear Disturbance) to network promote watershed and habitat values. Likewise, features which were not designated in 2006 (i.e., features that were added in 2013 as a result of the on-the-ground and GTLF inventory update), would be designated "Closed" to enhance watershed and habitat values unless there were an identified network continuity issue. These continuity issues may include connectivity for specific types of use networks (e.g. motorcycle, bicycle, etc.).

e. For routes where comments, communities, tribes or agencies recommended a route be changed from "Closed" to "Open" or "Limited" designation with a specific rationale for the access change, to enhance recreational or other access, or to replace another lost opportunity, the route would be initially designated "Open" or "Limited". In keeping with the community access focus of Alternative 4, this process defaulted to modifying the designation of these features to be "Open" motorized routes (or for a specific requested use), then reviewing the route under the 43 CFR 8342.1 designation criteria to determine if any conflicts would mediate in favor of designation of "Transportation Linear Disturbance" or if further mitigation was needed. This included routes that were added to the inventory after 2006 in the 2013 update. However, the larger network approach to Alternative 4 was to limit changes to the 2006 WEMO Plan network, consistent with the 43 CFR 8342.1 designation criteria; changes as a result of comments that would substantially increase access or change the character of access in a group of routes in a larger area were generally deferred to Alternative 3, if appropriate. Changes where multiple options presented themselves would have been considered under the various alternatives to give a reasonable range of alternatives, consistent with the designation criteria.

f. For specific routes where public comments, communities, or agencies requested that the route designation be changed from "Open" to "Closed" to motorized use or limited to smaller vehicles, non-motorized vehicles, or non-mechanized vehicles for recreational or other access or to protect sensitive resources, the route would be initially designated as "Closed" or further limited. If there were multiple options, non-motorized or non-mechanized options may be provided in Alternative 2. In keeping with the community access focus of Alternative 4, this process initially identified these features as further "Limited" or "Closed", then would review them against the rationale under the 43 CFR 8342.1 designation criteria, and review network continuity to determine if a different designation or additional mitigation measures were appropriate. If there is a need to provide a wider range of options or maintain some level of access in an area, Alternative 4 may have been modified to account for these issues. However, the larger network approach to Alternative 4 was to limit changes to the 2006 WEMO Plan network to those triggered by the 43 CFR 8342.1 designation criteria and route-specific comments, or to maintain network continuity; changes as a result of internal or external comments that would substantially limit access to a substantial group of routes in a larger area were generally deferred to Alternative 2, if appropriate to consider.

g. Routes may have been changed to "Motorized" (available for all travelers, including non-motorized or non-mechanized users) or further limited specific to further user types, if no comments or community need was identified, but a range of alternatives is appropriate based on feedback on other routes, network continuity, resource issues, or avoidance of issues elsewhere, consistent with the 43 CFR 8342.1 designation criteria and subject to further route-specific analysis.

h. Routes designated as "Limited" in the 2006 WEMO Plan decision would generally be identified as "Motorized-Authorized" or "Motorized-Administrative" (specific to the limitation), as applicable, subject to route-specific review. Many Motorized-Authorized routes would have undergone site-specific review and mitigation associated with a permit or other authorization. If conflicts were identified, these route features again were highlighted, in order to focus the route-specific review for the identified conflicts and consider additional mitigation measures. These conflicts would also be factored into determining whether routes would be available for public use and appropriate mitigation measures associated with route use.

i. Under Alternative 4, the designation of route ending at a jurisdictional boundary or private property would generally be updated in a similar manner as those in Alternative 2 unless a range of options presented itself, consistent with the designation criteria.

j. For routes used for, or intersecting, a Special Recreation Permit (SRP) area, the route would generally be modified to match the form of SRP use (e.g., non-motorized for mountain bike use). In the case where multiple types of SRP use exist, the route designation was deferred to the designation that other alternatives do not consider, to increase the range of alternatives. If the route intersected an SRP area, the route was designated as motorized to provide access to the area. Additional mitigation measures would be included as necessary to address criteria resources.

k. Under Alternative 4, for routes which have multiple user conflicts, the agency deferred the designation to the considered all users under Alternative 4, consistent with the designation criteria, and identified designations that may not have been previously considered or based on designations of surrounding routes. Generally the other options would be captured in Alternative 2 and Alternative 3 to give a range of reasonable alternatives, if appropriate. Additional mitigation measures would be identified as needed.

l. Under Alternative 4, routes intersecting a national designated trail would be designated in a similar manner as Alternatives 2 and 3, unless a specific comment was received or a range of options presented itself, consistent with the designation criteria. If the route provides access to a trailhead, it would be initially identified as motorized, unless there were no parking or staging area, or if the route is located a distance from the designated trail, it would be identified as a "Transportation Linear Disturbance" (i.e., closed) consistent with the designation criteria. If the route conflicted with trail use, such as traveling parallel to the trail, then it would generally be initially identified as a "Transportation Linear Disturbance" (i.e., closed), subject to route-specific review. Additional measures would be identified as needed.

m. For "Open" routes from the 2006 WEMO Plan located in a disturbance hotspot, the route would be reviewed and may be changed to a "Transportation Linear Disturbance" except

as needed to maintain connectivity of the network or to key resource and recreational sites, in order to minimize impacts to air quality and prevent additional habitat disturbance to the area. Where appropriate, at least one motorized route was maintained in the various directions, unless a designation of "Transportation Linear Disturbance" (i.e., closed) was needed to improve manageability of the area. If additional conflicts existed, depending on the severity, an entire area of routes may have been closed or open with mitigation measures. Some hotspots may be identified as potential staging or camping areas under Alternative 4. Disturbance hotspots are areas which have a significant density of routes within a very small area, such as historic vehicle play or staging areas.

The triggers used to identify a potential route or area to adjust in Alternative 4 is based on minimization and mitigation that are the same under both Alternative 3 and Alternative 4, and are provided in Table 2.3-7. The transportation network associated with Alternative 4 is shown in Figure 2.3-7. The total mileage of the designated travel network and the transportation linear disturbances for each alternative, including Alternative 4, is summarized in Table 2.4-1.

This network has been developed to provide emphasis on objectives and outcomes identified by adjacent communities, private landowners, commercial and recreational users, the Desert Advisory Council, as well as public scoping, consistent with regulatory criteria and policies for natural and cultural resource and multi-species conservation. It provides greater focus on the use of cooperative agreement strategies and partnerships with stakeholders to minimize impacts to resources and implement on-the-ground management strategies.

- Destination- and Touring-access oriented Goals and Objectives.
- Area-wide minimization across all public lands.
- Conservation/Access Balanced minimization and mitigation strategy.
- Restoration focused implementation.
- 5,782 miles of motorized routes.

Network-Wide Minimization Strategies under Alternative 4

The alternative-specific network minimization strategies for Alternative 4 would be the same as those described for Alternative 3, and are described in Table 2.3-8. Additional specific parameters for each travel management area may be included in the proposed travel management plans.

Post-Designation Implementation Strategies under Alternative 4

Specific components of the alternative developed to implement the planning goals and objectives include:

1. Other Resources and Uses
    a. Support resource conservation and enhancement goals while providing opportunities to experience the desert's unique resource values in the plan parameters and the development of the network;

b. Conform to proposed and adopted DRECP route parameters, in order to provide consistent proposed management strategies;

c. Give special attention to the goals in special areas (WSA, ACEC, NRHP sites, Tribal Areas, Riparian Areas, etc), including special recreation planning and use areas, where appropriate, the specific factors that have driven the identification and management of special areas, and associated access strategies;

d. Give special attention to the strategies of adjacent and overlapping land management agencies, to access needs of private landowners, and to local community and use groups with whom BLM can partner to enhance area-wide goals;

e. De-emphasize additions to the route network as the primary initial response to access needs--consider alternative access routes or methods to reach destinations and options in other areas, where appropriate;

f. De-emphasize route closure as a primary means to minimize resource and use conflicts on the remaining routes selected for the network, where consistent with area goals, as feasible;

g. Emphasize regional, network and tiered measures to minimize conflicts, including those which are consistent with or enhance similar strategies of other jurisdictions; and

h. Address specific landowner issues in the Wonder Valley area, while assuring network connectivity.

2. Primary Travelers

a. Manage access to emphasize casual multiple-use motorized and mechanized touring, but factor in diversity in recreational experiences, where appropriate;

b. Provide access to recreational and non-recreational destinations that are receiving current use and not experiencing undue access-related impacts;

c. Consider reestablishing access in areas where strategies have been developed and successfully implemented that control unauthorized use and other undue off-route impacts.

d. Consider both linear and loop trail opportunities in sensitive areas that minimize impacts from off-route use;

e. In other areas, emphasize mitigation and enhancement strategies to provide for a reasonable amount of recreational and touring opportunities, in addition to providing through-access on public lands to establish a comprehensive network; and

f. Emphasize single-use or limited-use (e.g. non-motorized) trails to enhance opportunities for unique recreational experiences, where appropriate.

3. Emerging Uses

a. Consider emerging access and access-dependent needs in development and management of the network; and

b. Have the route network support landscape-level conservation and use goals and strategies, and respond to changing local goals and needs, where appropriate; and

c. Work with the Town of Apple Valley to develop a strategy in northern Apple Valley that recognizes intensive use areas south of the Stoddard Valley OHV Open Area as well as the potential north of this area for a wildlife corridor between I-15 and the Ord-Rodman DWMA that abuts and includes the southern portion of the Stoddary Valley OHV Open Area.

4. Landscape Settings

   a. Maintain a diverse range of visual experiences in the development and management of the network, where appropriate, with special attention to special areas and destinations, consistent with other goals and objectives; and

   b. Maintain or enhance recreational settings in the development and management of the network.

5. Means of Travel Allowed to Accomplish Objectives

   a. Provide an array of diverse and unique uses at popular recreation destinations, where appropriate; and

   b. Limit motorized, competitive event routes outside of OHV open areas to designated "C" routes by special recreation permit, outside of DWMA and other ACEC (see Plan Amendment VII for specific locations identified under this alternative). Additional "C" routes would also be consistent with the 2006 WEMO Plan, the applicable Travel Management Plans, and subject to the route designation process.

6. Social Conflicts Between Different Travel Types

   a. Provide for joint use of access for visitors, local residents, and property owners except where mutually beneficial authorizations can be negotiated and are appropriate, consistent with other agencies, state and local governments;

   b. Provide additional access opportunities to underserved motorized or non-motorized recreation types insofar as it is consistent with other objectives;

   c. Identify existing easements for joint use routes, as needed;

   d. Utilize minimization and mitigation measures (e.g., signing, fencing, closing routes, where appropriate) to address known safety issues, conflicts between users, and impacts to resources;

   e. Consider access experiences and touring opportunities commensurate with the urban or rural nature of adjacent lands and the types of conflicts on the interface between urban and rural communities and adjacent jurisdictions.

   f. Consider future available resources in making long-term commitments to serve specific recreational needs;

   g. Address specific trespass issues when feasible; and

   h. Emphasize shared community strategies to avoid adverse impacts in sensitive areas and promote economic and recreational access.

7. Numbers and Types of Access Points
   a. Maintain stopping, camping and parking adjacent to routes, unless in heavily impacted areas, consider dedicated camping, staging and parking or strategies to maintain widely dispersed off-route use ;
   b. Reduce motorized access through sensitive areas with disturbance hotspots;
   c. Develop partnerships or pursue area-specific strategies to address disturbance hotspots or reduce unauthorized use, as appropriate;
   d. Limit access points in high conflict areas to manage resource and social impacts; and
   e. Develop strategies to identify and publicize where access points are and how to get to them.
8. Baseline System and existing Geographical Identity and Public Knowledge
   a. Build the network from the currently approved 2006 WEMO Plan network, as modified by the court;
   b. Maintain an accurate route inventory for management purposes, and for the production of both general and recreation specific Transportation Management Network maps, and make those maps available to the public through electronic means;
   c. Pursue reciprocal easements and utilize existing public easements to facilitate management of the primary access network; and
   d. Develop site-specific strategies at popular and sensitive destinations that are experiencing substantial impacts from access, where appropriate.
9. Non-Casual Uses
   a. Identify and Direct ROW and other authorized activities to existing corridors/sites, when reasonable;
   b. Emphasize joint use of routes by multiple ROW holders, when appropriate.
   c. Provide specific access for commercial users apart from access for casual users, where appropriate.
   d. Consider adding routes to the network that have been used for commercial uses if they enhance the network, consistent with other Plan goals, when the authorization expires; and
   e. Address additional access to private lands commensurate with individual and community access needs.
10. Boundaries for Management
   a. Recognize the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso Sub-regions, which would be split from the Rands and Red Mountain Sub-regions, thus creating two separate TMA.

b. Adopt nine Travel Management Areas, the eight TMAs identified during scoping and the CAPA Area[5], to implement the route network, and

c. Manage access in each of these TMA to conserve sensitive resource values and areas, including sensitive biological, cultural, and other factors, consistent with the CDCA Plan as modified by the 2006 WEMO Plan, as well as adopted ACEC Plans.

d. Manage access in each of the TMAs to enhance special features or areas and identified resource protection and recreation management goals and facilities within or adjacent to them.

e. Stress partnerships with communities, environmental and user groups to facilitate implementation of the transportation and travel management plan, and enhance local transportation and related development and conservation objectives.

Future changes to the network would be developed consistent with these goals and objectives, and specific direction in travel management plans. General implementation direction is identified in Table 2.3-6. Any other specific parameters for each travel management area would be included in the proposed travel management plans.

Monitoring and Adaptive Management

Under Alternative 4, implementation strategies are as outlined in Table 2.3-8. Monitoring and rehabilitation priorities in the Route Signing Plan posted at http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html, would be adjusted based on new information. The court ordered monitoring would continue, under the existing protocol, consistent with the details of the protocol. The priorities for implementation are based on a combination of factors including biological, wilderness, cultural, proximity to urban interface, and readiness, which would continue to be general guidance. Travel management plans would provide more specific guidance within the Subregions, and may also factor in specific community, recreational and other access implementation priorities, depending on the area. The basis of the biological priorities is outlined in more detail in the 2005 WEMO FEIS, page 2-164. These would be augmented with additional priorities related to other sensitive resources, particularly in special areas or where critical needs have been identified by staff and management. In addition to higher use DWMA areas, DWMA adjacent to OHV Open Areas, and higher density tortoise areas, critical ACEC resources, adversely affected riparian areas and springs, and at-risk listed and eligible cultural properties would be high priorities.

In addition, BLM would continue to seek funding opportunities and other resources to expand the current education and outreach community partnership and other partnerships in the WEMO area.

Under Alternative 4, the parameters for route network changes for the WEMO Planning area would be updated to reflect actual operational needs and provide for adjustment of the network, consistent with parameters in the travel management plans and general thresholds for plan amendment changes outlined in Section 2.7. Opening or closing routes would be subject to appropriate NEPA compliance in all cases, including appropriate consultations, except in the

[5] TMA 7 would consist of the remaining two sub-regions—the Rands and Red Mountain.

case of emergencies, in which case NEPA would be completed consistent with regulatory requirements. These changes would occur within the parameters set in the 2006 WEMO Plan.

2.4 Comparison of Alternatives

Comparison of Networks Between Alternatives

For comparison of the No Action Alternative to the other alternatives, it is important to note that the terminology associated with designation of route networks changed as a result of BLM's 2012 TTM Handbook. Prior to 2012, individual routes in OHV Limited Areas were designated in the CDCA Plan as Open, Limited, or Closed, and those are the designations assigned to routes within the No Action Alternative.

In the 2012 TTM Handbook, the terminology was modified. As discussed in Section 2.3, each individual transportation linear feature is designated as either part of the designated travel network ("Motorized", "Non-Motorized", or "Non-Mechanized"), or as Transportation Linear Disturbances which are not part of the travel network. The designated travel network includes motorized routes that would previously have been designated as Open or Limited, but also includes non-motorized routes, routes authorized for specific modes of travel or users, and routes with other restrictions. Transportation linear disturbances are roughly equivalent to what were previously designated as Closed routes, and are not open to any use.

This change in terminology complicates the direct, quantitative comparison of the network under the No Action Alternative versus Alternatives 2, 3, and 4. A comparison of the mileage of Open, Limited, and Closed routes under all alternatives cannot be made because these designations are not made to routes under Alternatives 2, 3, and 4. Similarly, a comparison of the mileage of the non-motorized network cannot be done because this designation was not made under the No Action Alternative. Though some comparisons can be done between the No Action and action alternatives (2, 3, and 4), and are presented in Table 2.4-1 below, these comparisons need to be considered within the context of this change in process and terminology. Table 2.4-2 summarizes the differences between the features of the alternative route networks.

Table 2.4-1. Comparison of Length (in miles) of Alternative Route Networks

Current Designation	Alt. 1 - No Action Alternative	Designation under Action Alternatives	Alt. 2 - Resource Conservation Enhancement	Alt. 3 – Public Land Access Maintenance	Alt. 4 – Community Access Enhancement
Total Open and Limited Miles of Routes in Network	5,338	Motorized Routes in Network	4,293	10,428	5,782
Total Open and Limited Potential Disturbance Acres from the Network	190,474	Motorized Routes in Network	49,165	201,712	101,866
Limited – designated for Motorcycle use	38.3	Limited – designated for Motorcycle use	228.5	147	120.9

Table 2.4-1. Comparison of Length (in miles) of Alternative Route Networks

Current Designation	Alt. 1 - No Action Alternative	Designation under Action Alternatives	Alt. 2 - Resource Conservation Enhancement	Alt. 3 – Public Land Access Maintenance	Alt. 4 – Community Access Enhancement
Non-Motorized routes not designated prior to 2012		Non-Motorized Routes	28	95	63
Non-Mechanized routes not designated prior to 2012		Non-Mechanized Routes	35	33	22
Closed	2,398	Closed (Transportation Linear Disturbances)	10,599	4,404	9,076
No Route-Specific Designation, Presumed Closed	7,214 (estimated)	These routes have now been evaluated under action alternatives			

Table 2.4-2. Comparison of Features of Alternative Route Networks

Feature	Alt. 1 - No Action Alternative	Alt. 2 - Resource Conservation Enhancement	Alt. 3 – Public Land Access Maintenance	Alt. 4 – Community Access Enhancement
Facilities and Improvements Focus	Existing and Limited site-specific: Popular areas	Existing and Limited site-specific: Conservation goals	Existing and Limited site-specific: Popular areas and Recreation opportunities	Area and site-specific: Advance area goals and partnerships
Stopping and Parking Limits	DWMA: 50 feet from centerline Non-DWMA: 300 feet from centerline	DWMA: 50 feet from centerline Non-DWMA: 50 feet from centerline	DWMA: 50 feet from centerline Non-DWMA: 100 feet from centerline	DWMA: 50 feet from centerline Non-DWMA: 100 feet from centerline
Camping Limits	Adjacent to routes, consistent with regulations DWMA: Previously existing sites adjacent to routes designated open Non-DWMA: Within 300 feet from routes designated open	DWMA: Previously existing sites within 50 feet from centerline Non-DWMA: Previously existing sites within 50 feet from centerline	DWMA: Previously existing sites within 100 feet from centerline Non-DWMA:Within 100 feet from centerline	DWMA: Previously existing sites within 100 feet from centerline Non-DWMA: Within 100 feet from centerline

Results of Preliminary Transportation Network Designation Process

As discussed in Section 2.3.1, the current inventory of linear transportation features in the GTLF was developed for the WMRNP by beginning with the 2006 WEMO Plan designated route

network in GIS, and then adding linear features identified through the review of NAIP aerial photos. This resulted in an updated GTLF that represented the on-the-ground inventory of linear features as of early 2013. This inventory comprises a total of 14,943 miles of linear features.

Within this inventory, the subset of linear features that are in the 2006 WEMO Plan designated route network comprise the No Action Alternative. As discussed above, the linear features within this alternative were designated as Open, Limited, or Closed. The mileage of the network within the No Action Alternative is 5,338 miles, but this total comprises only motorized routes designated as Open or Limited, and does not include Closed Routes or non-motorized routes.

Then, to develop Alternatives 2, 3, and 4, each linear feature in the inventory was considered within the context of the objectives of that alternative. Based on a review of the objectives and the coincidence of the route with potentially impacted resources, the route was either included in the designated travel network, or was considered to be a transportation linear disturbance. Sub-designations were also made, including identification of the route as motorized, non-motorized, or non-mechanized; identification of specific modes of travel; and identification of minimizations including authorization/permit, administrative, or seasonal restrictions.

For Alternatives 2, 3, and 4, the alternatives vary the specific designations made to each inventoried linear feature in order to achieve resource protection, recreation access, and community access goals, but the inventory used to develop the route network assignments was the same for all alternatives. As a result of the designation decisions made in the WMRNP, the physical on-the-ground network may be modified, including physical closure of routes currently open to motorized vehicle use as well as the opening of currently closed routes. These routes would be reclassified as transportation linear disturbances, motorized, non-motorized, or non-mechanized.

Preferred Alternative – Public Lands Access Maintenance (Alternative 3)

The Agency Preferred Alternative in the Draft SEIS is Alternative 3. Initial output from Alternative 3 included strategies to minimize impacts, and integrated some elements of Alternatives 1, 2 and 4 in order to enhance community values, address DAC issues, and respond to specific agency comments, consistent with Alternative 3 goals and objectives. Additional mitigation has been incorporated where appropriate to address these changes. Alternative 3 includes a much larger network than the network approved under the 2006 WEMO Plan, but also proposes to close 2,000 more miles of additional routes than those that were designated closed in the 2006 WEMO Plan. Alternative 3 proposes to make available to the public, or to authorized users, 10,428 miles of motorized routes, and also proposes to address closure of 4,404 miles of routes.

The preferred alternative is intended to provide recreational, local, and commercial access on routes in the planning area that do not result in unacceptable impacts to sensitive resources. The preferred alternative also proposes to maintain access on routes that are being used appropriately, that is, to the extent their use is not causing unnecessary and undue impacts to public lands and resources. The closure of 4,404 miles under the preferred alternative is an increase in the 2,400 miles of closures approved in the 2006 WEMO ROD.

The Final SEIS proposed action will be selected after circulation of the Draft SEIS alternatives and analysis, and may include a combination of one or more Draft SEIS alternatives. It will take into consideration comments on the Draft SEIS from local jurisdictions, other agencies, tribes,

and the public, as well as further consultation with USFWS and the SHPO. It may also reflect ongoing data collection and GIS updates under way for the plan.

Summary Comparison of Livestock Grazing Proposals Between Alternatives

Livestock Grazing Proposals Common to all Alternatives

An allotment by allotment comparison of alternatives is provided in Table 2.4-3. All alternatives would do the following:

Conform the CDCA Plan, as amended, to show that the Lava Mountain and Walker Pass Common Allotments have been permanently relinquished under the authority of the 2012 Appropriations Act (Public Law 112-74). The associated AUMs have been reallocated from livestock forage to wildlife use and ecosystem functions.

The 2006 WEMO Plan made the majority of ephemeral sheep/cattle allotments in DWMA unavailable for grazing use, raised minimum forage levels for ephemeral grazing turnout, and discontinued the use of ephemeral and temporary non-renewable grazing authorizations within cattle allotments located in DWMA.

The 2006 WEMO Plan also allowed for voluntary relinquishment of sheep and cattle allotments within the West Mojave Planning Area that would benefit species conservation or enhance desert tortoise recovery. This provision is available for all grazing allotment that meet this criteria under all alternatives.

Under Alternative 1 - No Action

Under this alternative, livestock grazing would continue under the terms and conditions contained in the Final Grazing Decisions issued for active grazing allotments subsequent to the release of the 2006 WEMO Plan within the West Mojave Planning Area. Six inactive, vacant allotments would remain available for potential future grazing, subject to site-specific NEPA analysis and determination of grazing suitability, consistent with the West Mojave Plan terms and conditions and additional conditions as identified in the allotment specific NEPA analysis. If found unsuitable, an allotment would be unavailable to grazing.

Under Alternative 2 - Resource Conservation Enhancement

Under Alternative 2, livestock would be discontinued and there would be a reallocation of AUMs for all livestock grazing within DWMAs and CHU, with the exception of one small horse allotment. This would make livestock grazing unavailable in portions of the Ord Mountain and Johnson Valley Allotments, the entire Harper Lake and Cronese Lake Allotments, and portions of Cantil Common and Shadow Mountain Allotments. Livestock grazing would continue on the Valley Well Allotment, which is not within DWMA but is within a CHU.

Under Alternative 3 - Public Lands Access Maintenance

Under Alternative 3, livestock grazing would be discontinued on currently inactive, vacant allotments, both within and outside of DWMAs and CHU and within desert tortoise habitat.

There would be a reallocation of AUMs from livestock forage to wildlife use and ecosystem functions and make these allotments unavailable for livestock grazing.

Under Alternative 4 - Community Access Enhancement

Under Alternative 4, livestock grazing would be discontinued and there would be a reallocation of AUMs on a livestock grazing allotment only within DWMAs and CHU, if the allotment is currently inactive and vacant or if the allotment becomes vacant. This would include a small portion of the Johnson Valley Allotment, and the entire Harper Lake and Cronese Lake Allotments. Three other inactive, vacant allotments not within DWMAs or CHU, would remain available for potential future grazing, subject to site-specific NEPA analysis and determination of grazing suitability, consistent with the West Mojave Plan terms and conditions and additional conditions as identified in the allotment specific NEPA analysis. If found unsuitable, an allotment would be unavailable to grazing.

Table 2.4-3. Comparison of Alternative Grazing Program Allotment Components

Allotment	Alternative	Allotment Acres Remaining Outside DWMA/CHU	Allotment Acres Remaining Within DWMA/CHU	AUMs
Antelope Valley	1 - No Action	7,158	0	0
	2 - Resource Conservation	7,158	0	0
	3 - Public Land Access	7,158	0	0
	4 - Community Access	7,158	0	0
Boron	1	11,202	0	0
	2	11,202	0	0
	3	11,202	0	0
	4	11,202	0	0
Bissell	1	777	0	0
	2	777	0	0
	3	777	0	0
	4	777	0	0
Buckhorn Canyon	1	7,634	0	0
	2	7,634	0	0
	3	0	0	0
	4	7,634	0	0
Cady Mountain	1	160,104	0	2,010
	2	160,104	0	2,010
	3	0	0	0
	4	160,104	0	2,010
Cantil Common	1	196,171	6,726	0
	2	196,171	0	0
	3	196,171	6,726	0
	4	196,171	6,726	0

Table 2.4-3. Comparison of Alternative Grazing Program Allotment Components

Allotment	Alternative	Allotment Acres Remaining Outside DWMA/CHU	Allotment Acres Remaining Within DWMA/CHU	AUMs
Cronese Lake	1	22,517	25,992	500
	2	0	0	0
	3	0	0	0
	4	0	0	0
Double Mountain	1	2	0	38
	2	2	0	38
	3	0	0	0
	4	2	0	38
Goldstone	1	0	0	0
	2	0	0	0
	3	0	0	0
	4	0	0	0
Gravel Hills	1	0	0	0
	2	0	0	0
	3	0	0	0
	4	0	0	0
Hansen Common	1	34,848	0	354
	2	34,848	0	354
	3	34,848	0	354
	4	34,848	0	354
Harper Lake	1	2,182	15,936	600
	2	0	0	0
	3	0	0	0
	4	0	0	0
Johnson Valley	1	108,757	429	0
	2	108,757	0	0
	3	0	0	0
	4	108,757	0	0
Kelso Peak	1	2,718	0	132
	2	2,718	0	132
	3	2,718	0	132
	4	2,718	0	132
Lacey-Cactus-McCloud	1	147,488	0	1,469
	2	147,488	0	1,469
	3	147,488	0	1,469
	4	147,488	0	1,469
Monolith-Cantil	1	10,825	0	0
	2	10,825	0	0
	3	10,825	0	0
	4	10,825	0	0

Table 2.4-3. Comparison of Alternative Grazing Program Allotment Components

Allotment	Alternative	Allotment Acres Remaining Outside DWMA/CHU	Allotment Acres Remaining Within DWMA/CHU	AUMs
Oak Creek	1	23	0	16
	2	23	0	16
	3	0	0	0
	4	23	0	16
Olancha	1	13,762	0	606
	2	13,762	0	606
	3	13,762	0	606
	4	13,762	0	606
Ord Mountain	1	18,898	117,290	3,632
	2	18,898	0	508
	3	18,898	117,290	3,632
	4	18,898	117,290	3,632
Rattlesnake Canyon	1	26,832	0	1,081
	2	26,832	0	1,081
	3	26,832	0	1,081
	4	26,832	0	1,081
Round Mountain	1	15,253	0	880
	2	15,253	0	880
	3	15,253	0	880
	4	15,253	0	880
Rudnick Common	1	163,842	0	6,218
	2	163,842	0	6,218
	3	163,842	0	6,218
	4	163,842	0	6,218
Shadow Mountain	1	16,364	601	0
	2	16,364	0	0
	3	16,364	601	0
	4	16,364	601	0
Spangler Hills	1	57,695	0	0
	2	57,695	0	0
	3	57,695	0	0
	4	57,695	0	0
Stoddard Mountain	1	16,889	0	0
	2	16,889	0	0
	3	16,889	0	0
	4	16,889	0	0
Superior Valley	1	0	0	0
	2	0	0	0
	3	0	0	0
	4	0	0	0

Table 2.4-3. Comparison of Alternative Grazing Program Allotment Components

Allotment	Alternative	Allotment Acres Remaining Outside DWMA/CHU	Allotment Acres Remaining Within DWMA/CHU	AUMs
Tunawee	1	51,729	0	0
	2	51,729	0	0
	3	51,729	0	0
	4	51,729	0	0
Valley Well	1	0	480	24
	2	0	480	24
	3	0	480	24
	4	0	480	24
Warren	1	584	0	55
	2	584	0	55
	3	584	0	55
	4	584	0	55

2.5 Alternatives Considered but Eliminated from Detailed Evaluation

Density cap on routes

Specific route density caps (mileage and township) were considered at length in the 2006 WEMO Plan for the entire Desert Tortoise (DT) Category I and Category II habitat areas. The alternative was dismissed due to the arbitrary nature of the density caps, which had no basis in the Desert Tortoise Recovery Plan or the scientific literature. The alternative was dismissed from further analysis in favor of a process that considered specific issues known to be associated with desert tortoise sensitivity (2005 WEMO Plan FEIS, p. 2-26). In addition, the area wide density would need to consider the relative importance of other criteria resource values, which are also tied to specific factors related to each resource. Opening or closure of a route may result in specific impacts to criterion resources. The process of making a route designation for features based only on the area designation precludes a feature-specific consideration of resource impacts, as required by 43 CFR 8342.1. Therefore this approach was again dismissed from further analysis.

1985-1987/ACEC Route Network Alternative

This alternative would keep in place the specific route designations as they existed prior to the June, 2003 adopted interim route network. This alternative was also considered at length in the 2005 WEMO FEIS (pp. 2-228-229) and dismissed from further consideration. The alternative was dismissed due to several reasons: These issues are still valid—the network has continuity issues and design flaws. Inaccuracies were found in locating routes in the open route network and the network lacked connectivity, particularly at the edges with ACECs and with networks on adjacent lands. It no longer provides a reasonable network adjacent to substantially developed areas in the southern portions of the planning area. Substantial new rights-of-way, urban development, and other commercial and access development has occurred since that time. While the 1985-1987 network did a fair job at documentation of its rationales for many of the closures

and limitations under 43 CFR 8342.1, it did not do as good a good documentation job for routes that were left open.

In addition, a multitude of changes in resource conditions have ensued since these designations, which are more than 20 years old. The network was developed prior to the listing of the desert tortoise as threatened and the designation of CHU. This network was developed prior to the California Desert Protection Act, which designated areas of the planning area as wilderness, prior to an OHV area addition and boundary adjustments, prior to many ACEC designations and boundary or management plan adjustments, prior to the listing of various plants, prior to the significant growth of the Victor Valley region, etc. Major changes have also occurred in the grazing program and due to major fires that resulted in watershed level changes in plant cover. For these reasons, the 1985-1987 network was not carried forward for analysis.

2.6 Modifying the Plan

Most network and other implementation strategy changes would require NEPA review but not a plan amendment, because they would not result in an alteration of the underlying management plan. Thresholds for changing the Land Use Plans are outlined in 43 CFR 1610.5-5, which states that an amendment should be considered if there is a need to consider "a proposed action that may result in a change to the scope of resource uses or a change in the terms, conditions, and decisions of the approved plan." Major changes (Table 2.3-6) may require evaluation for plan amendment. The general factors to be considered to determine if a plan amendment evaluation is warranted under 43 CFR1610.5-5, and to determine if development of additional location-specific plan amendment thresholds are warranted include:

- Network changes substantially alter overall motor-vehicle use patterns in a subregion.
- Network or strategy changes require revision of WEMO Planning area goals or overall TMA goals.
- Network changes involve large acquisitions or disposals with multiple access options or adjustments.
- Network changes involve addition of substantial (improved) routes to the current network that are not part of a larger project-specific review.
- Changes involve new route construction outside an existing transportation or utility corridor in excess of parameters (e.g., minor re-alignment) outlined on page 2-167 of the 2005 WEMO FEIS.

Network and implementation strategies should be adequate to address sensitive resource values in the area, including being adaptive to new information (e.g., new listings of species, responsive to fire damage, etc.). Thresholds for changing the planning elements of this amendment would be consistent with the guidance of the CDCA Plan (1999, rewrite, p. 119), as amended, including parameters identified in parts of the 2006 WEMO Plan (e.g., 1% limitation on new disturbances) that are not being proposed for amendment herein. Location-specific parameters for network changes that could trigger a plan amendment may be established on a travel management area or Subregion-specific basis, as appropriate. At this point, location-specific triggers have not been identified, but may be established as a result of public and other agency comment. This guidance would augment Section 2.2.6.11 of the 2005 WEMO FEIS.

CHAPTER THREE
AFFECTED ENVIRONMENT

Chapter 3 describes the environmental resources in the WEMO Planning area that could be affected by implementation of the WMRNP and plan amendment actions for livestock grazing. Chapter 3 describes resources, resource uses, special designations, and other important topics (i.e., public health and safety, social and economic considerations, and environmental justice conditions) that may be impacted by the WMRNP. "Resources" include air, climate change, soil, water, vegetative communities, wildlife and plant species, as well as cultural and visual resources. "Resource uses" include livestock grazing, minerals, recreation management, transportation and public access, and lands and realty. "Special designations" include Areas of Critical Environmental Concern (ACECs), Desert Wildlife Management Areas (DWMAs), wilderness areas, Wilderness Study Areas (WSAs), and areas inventoried for wilderness characteristics.

Information and data used to prepare this chapter were obtained from the California Desert Conservation Area (CDCA) Plan, the 2006 WEMO FEIS, and various Bureau of Land Management (BLM) planning and National Environmental Policy Act (NEPA) documents. This would also include grazing allotment specific environmental assessments (EAs) prepared for the renewal of grazing permits and leases. Information and data were also collected from many other related planning documents and research publications prepared by various federal and state agencies, and from private sources pertaining to key resource conditions and resource uses found within the project area. The purpose of this chapter is to provide a description of affected resources and BLM program areas within the existing environment of the planning area, which will be used as a baseline to evaluate and assess the impact of the WMRNP and grazing alternatives described in Chapter 2. Descriptions and analyses of the impacts of the WMRNP are presented in Chapter 4, Environmental Consequences.

3.1 Analysis of the Management Situation

This section describes how transportation and grazing are currently managed in the WEMO Planning area, with an emphasis on the historical evolution of the route network and grazing and the transportation management and grazing policies in response to legislation, resource conflicts, land uses, and social and economic conditions. This section summarizes how resources and land uses have influenced the development of the transportation network and livestock grazing practices in the Planning Area, and how they have resulted in the current transportation network and management policies for that network and livestock grazing in the West Mojave Planning Area. The specific resources, land use needs, and social and economic conditions that may be affected by the transportation network alternatives, including livestock grazing are presented throughout the resource-specific subsections of Chapter 3.

3.1.1 Current Management Direction

3.1.1.1 Legislation and Policies

Federal Land Policy and Management Act (FLPMA)

The BLM's planning process is governed by FLPMA (43 USC 1712) and 43 Code of Federal Regulations (CFR) 1600. FLPMA requires Land Use Plans (LUPs) to be developed, maintained and when appropriate, to be revised to provide for the use of the public lands. In development and revision of land use plans BLM is required to use multiple use and sustained yield principles, achieve integrated consideration of physical, biological, economic, and other sciences, rely on present inventories of the public lands and their resources and values, consider the present and potential use of the public lands, comply with applicable pollution control laws, and consider the policies of state, local and tribal land use plans. As required by FLPMA, public lands must be managed in a manner that protects the quality of public land resources, and that provides for outdoor recreation and human occupancy and use (43 USC 1701(a)(8)).

FLPMA specifically addresses transportation and motorized vehicle access, as well a livestock grazing. In addition to the Congressional Declaration of Policy, 43 USC 1701, noted above, Part 6 and Part 7 of Title V, authorizes the issuance of rights-of-way for use of the public lands. Title VI of FLPMA, which established the CDCA, specifies that the use of all California desert resources can and should be provided for in a multiple use and sustained yield management plan, to conserve resources for future generations, to provide for the present and future use and enjoyment, particularly outdoor recreation uses, including the use, where appropriate, of off-road recreational vehicles (OHV) (43 USC 1781).

Executive Orders No. 11644 and 11989

In 1972, Presidential Executive Order No. 11644 established the first uniform policies regarding OHV use on public lands. Each land management agency was directed by this Order to issue directions as to which trails and areas were open for OHV use and which were not. The Order required that OHV use be monitored to assess and minimize associated impacts. The requirements of the Order were implemented by BLM in 43 CFR 8342.1. Executive Order 11989 (42 FR 26959, May. 24, 1977) amended Executive Order 11644 (37 FR 2877, Feb. 8, 1972) by requiring that off-road vehicle areas or trails be closed immediately if an agency determines that the use of off-road vehicles will cause or is causing considerable adverse effects on the soil, vegetation, wildlife, wildlife habitat, or cultural or historic resources.

Federal Regulation 43 CFR 8342.1

The CDCA Plan's motorized-vehicle access element was amended (1982 Plan Amendment Three, approved May 17, 1983) to conform with 43 CFR 8342.1, which states:

"The authorized officer shall designate all public lands as either open, limited, or closed to off-road vehicles. All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands; and in accordance with the following criteria:

- Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness sustainability.

- Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.
- Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.
- Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established."

Wilderness Act of 1964 and Omnibus Bill of 2009

The Wilderness Act of 1964 established the National Wilderness Preservation System. Wilderness as defined by the Act is "an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions" for the benefit of present and future generations (Wilderness Act, 1964).

The 2009 Omnibus Public Land Management Act of 2009 added more than two million acres of wilderness, more than 1,000 miles of Wild and Scenic Rivers, and established new National Parks, conservation areas, national heritage areas, national trails, and national monuments. The bill created new water conservation, habitat restoration, and land management programs, and gave formal recognition to the 26 million acre National Landscape Conservation System (NLCS) encompassing BLM's National Monuments, Conservation Areas, Wilderness and Wilderness Study Areas, Wild and Scenic Rivers, and Scenic and Historic Trails.

The WEMO Planning area includes areas designated as wilderness, as well as legislatively designated Wilderness Study Areas (WSA). In addition, the Mojave River in the planning area includes segments that have been determined to be eligible Wild and Scenic Rivers. Other lands in the planning area have not been designated as wilderness or WSA, but retain wilderness characteristics. These various lands are discussed in Section 3.11.

BLM Travel and Transportation Management Guidance

In recent years, BLM has developed substantial guidance to facilitate the integration of comprehensive travel and transportation management planning into land use planning. Travel and Transportation Manual 1626 (MS-1626, July 14, 2011), forms the backbone of this guidance. Many of these developments were in the form of Instruction Memorandums (IMs), which only have temporary applicability until their provisions are formally incorporated into a BLM Manual or Handbook. A summary of the recent IMs and Handbooks is as follows:

- H-1601-1, Land Use Planning Handbook, Appendix C, Part D. Comprehensive Trails and Travel Management. March 11, 2005.
- Technical Note 422. Roads and Trails Terminology. November 2006. Implemented in IM 2006-173, dated June 20, 2006.

- IM 2007-030. Clarification of Cultural Resource Considerations for OHV Designation and Travel Management. December 22, 2006.
- IM-2012-067. Clarification of Cultural Resource Considerations for Off-Highway Vehicle Designations and Travel Management. February, 10, 2012.
- IM 2008-014. Clarification of Guidance and Integration of Comprehensive Travel and Transportation Management Planning in the Land Use Planning. October 25, 2007.
- H-8342-1, Travel and Transportation Management Handbook. March 16, 2012.

Livestock Grazing

Within the West Mojave Planning Area, domestic livestock grazing is managed under the authorities contained in the Taylor Grazing Act of 1934, FLPMA, NEPA, Endangered Species Act of 1973 (ESA), the Public Rangelands Improvement Act of 1978 and the CDCA Plan of 1980, as amended. Within the grazing regulations, 43 CFR Part 4100 are specific guidance for the administration of livestock grazing on the public lands.

The Consolidated Appropriations Act of 2012, specifically address livestock grazing in the California Desert Conservation Area. This Act allowed for the donation of grazing permits and leases back to BLM and make the land available for mitigation by allocating the forage to wildlife use consistent with any applicable Habitat Conservation Plan, Section 10(a)(1)(B) permit, or Section 7 consultation under the ESA.

The Continuing Resolutions authorized by Congress over the past few years have contained language specific to livestock grazing concerning grazing permit and lease renewals, the trailing of livestock acress public lands, the administrative review process, grazing transfers and changes in the mandatory terms and conditions.

Other Agencies

No other federal, state, or local agencies have specific jurisdiction over motorized vehicle use and livestock grazing on public lands. The National Highway Traffic Safety Administration (NHTSA) has established Federal Motor Vehicle Safety Standards (FMVSS) for motor vehicles, and these, along with California state regulations established by the Department of Motor Vehicles (DMV), California Air Resources Board (CARB), and California Highway Patrol (CHP), govern the types of vehicles that may be used on highways. In addition, the route network established for the WEMO Planning area must be consistent with the networks established in the adjacent areas by considering "edge-fitting," in which open routes in the WEMO Planning area would link with open routes in adjacent areas, and the same would occur for closed routes. Within the West Mojave Planning Area, the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) have issued biological opinions that have contained terms and conditions which direct BLM's livestock grazing program on matters concerning the conservation and recovery of special status species and their habitats.

3.1.1.2 CDCA Plan

General Description

The BLM administers approximately 3.1 million acres of public lands within the WEMO Planning area. Management is guided by the BLM's California Desert Conservation Area Plan, adopted in 1980 and amended on numerous occasions since then. Congress specifically directed the BLM to prepare the CDCA Plan under the Federal Land Policy and Management Act of 1976. Finding that the California desert and its resources, "including certain rare and endangered species of wildlife, plants and fishes" are "seriously threatened by air pollution, inadequate Federal management authority, and pressures of increased use, particularly recreational use," Congress stated that "the use of all California desert resources can and should be provided for in a multiple use and sustained yield management plan to conserve these resources for future generations, and to provide present and future use and enjoyment, particularly outdoor recreation uses, including the use, where appropriate, of off-road recreational vehicles." To accomplish this, BLM was directed to prepare a plan for the "management, use, development, and protection of public lands within the California Desert Conservation Area" (of which the western Mojave Desert comprises the northwestern third). The plan would "take into account the principles of multiple use and sustained yield in providing for resource use and development, including, but not limited to, maintenance of environmental quality, rights of way, and mineral development."

The goal of the Motorized-Vehicle Access Element of the CDCA Plan is to provide a system and set of rules governing access to the CDCA by motor vehicles. Specific objectives included are:

- Provide for constrained motorized vehicle access in a manner that balances the needs of all desert users, private landowners, and other public agencies.
- When designating or amending areas or routes for motorized vehicle access, to the degree possible, avoid adverse impacts to desert resources.
- Use maps, signs, and published information to communicate the motorized vehicle access situation to desert users. Be sure all information materials are understandable and easy to follow.

In addition to the goals stated in the Motorized Vehicle Access Element, other elements of the CDCA Plan address access needs for various desert uses, as follows:

- The Recreation Element cited access to recreational opportunities using motorized vehicles as being among the most important recreation issues in the desert, and ensuring that access routes necessary for recreation are provided is a primary consideration of the recreation program.
- The Geology, Energy, and Mineral Element requires that BLM continue to provide access and opportunities for exploration and development on public lands which are accessed or have potential for:
  - i) Critical mineral resources (national defense; 50+% importer; net importer)
  - ii) Potential energy resources (geothermal, oil, gas, uranium, and thorium)
  - iii) Minerals of local and State importance (sand & gravel, limestone, gypsum, iron, specialty clays, zeolites)

- The Energy Production and Utility Corridors Element specifies that the Plan will provide space not only for communications sites, but for associated infrastructure such as access roads. In addition, this element allows for the development of renewable and other energy production and transmission facilities, each of which requires access.

The Livestock Grazing Element states that currently and historically, livestock grazing has been and continues to be a significant use of renewable resources on public lands in the California Desert. The goals of the element are:

- Use range management to maintain or improve vegetation to meet livestock needs and to meet other management objectives sit forth in this plan.
- Continue to use the Californa Desert for livestock production to contribute to satisfying the need for food and fiber from public land.
- Maintain good and excellent range condition and improve poor and fair range condition by on condition class, through the development and implementation of feasible grazing systems or Allotment Management Plans (AMPs). Adjust livestock grazing use where monitoring data indicate chamges are necessary to meet resources objectives.

Area Designations

BLM's planning regulations (43 CFR 8341) require that all public lands be designated as "open," limited," or "closed" to OHV use. Within designated "open" areas, all types of vehicle use are permitted anywhere in the area, subject to operating regulations and vehicle standards provided in 43 CFR 8341 and 8342. Within "closed" areas, all OHV use is prohibited. Within "limited" areas, individual roads, primitive roads, and trails can be designated as "open," "closed," or "limited," and BLM must establish permitted types or modes of travel, time or season of use, allowable vehicle types, authorization or permit requirements, and other types of user limitations. OHV area designations are LUP decisions, as opposed to implementation decisions. Specific route designations within area designations are implementation level decisions.

The CDCA Plan adopted landscape-level Vehicle Access designations, presented in Map 10 of the Plan. The Vehicle Access designations were made commensurate with the multiple-use class (MUC) designation for each area. The three Vehicle Access Designations are "open areas", "closed areas", and "limited areas". Vehicle use in open areas was approved subject to restrictions by the operating regulations and vehicle standards described in 43 CFR 8341 and 8342. Closed areas included all public lands within designated wilderness areas, and other specified areas closed by the CDCA Plan or specific activity-level management plans. Page 76 of the CDCA Plan (1999 reprint) in Table 8 and for four listed areas immediately before the table, includes areas designated as closed prior to the CDCA Plan which remain closed under the CDCA Plan, and will remain closed under the Plan unless modified by subsequent implementing action. Table 9 includes significant sand dune areas or dry lake beds which have either been opened or closed under the CDCA Plan (CDCA Plan, p.78, 1999 reprint).

Within the limited areas, the CDCA Plan stated that "Limited" vehicle access means that motorized-vehicle access is allowed only on "routes of travel". At the minimum, use will be restricted to existing routes of travel. BLM would work with the public to determine which routes needed to be closed or limited in some other way, in consideration of the criteria listed in 43 CFR 8342.1.

Route Designations

The designation of individual roads, primitive roads, and trails are addressed as an implementation level plan tiered from the LUP. These decisions can be developed as stand-alone TMPs, or can be incorporated into activity management plans,

The CDCA Plan provided the following definitions for open, closed, and limited routes.

- Open Route. Access on the route by motorized vehicles is allowed. Specific uses with potential for resource damage or significant conflict with other use may require specific authorization.
- Closed Route. Access on route by motorized vehicles is prohibited except for: (1) fire, military, emergency or law enforcement vehicles when used for emergency purposes; (2) combat or combat support vehicles when used for national defense purposes: (3) vehicles used for official purposes by employees, agents, or designated representatives of the federal government or one of its contractors. Use must be consistent with the multiple use guidelines for that area.
- Limited Route. Access on route is limited to use by motor vehicles with respect to number of vehicles, type of vehicles allowed, time or season of vehicle use, permit or license requirements, and speed limits.

The definition of limited routes is further defined in the 2012 TTM Handbook (H-8342-1) to include consideration of types or modes of travel; identification of roads, primitive roads, and trails; time or season of use; types of vehicles (OHV, motorcycle, ATV, high clearance, etc.); authorizations or permits for vehicles or users; and BLM administrative use only or other types of limitations.

Implementation Strategies in CDCA Plan

The CDCA Plan specified on-the-ground implementation of the OHV Area designations made in the Plan, as follows:

- Open areas were signed and identified on maps for public distribution. In open areas that abut private lands, BLM encourages users to avoid unauthorized use through the use of signs, brochures, on-site personnel, and placement of permanent kiosks. Signs and maps also indicate locations of military land boundaries.
- Closed areas were signed to prevent unauthorized use, and identified on publicly available maps.
- For Limited areas, BLM developed considerations to be used in designating individual routes in Multiple Use Class (MUC) L and M areas.

Plan Amendments Relevant to TTM

The CDCA Plan has been amended several times since 1980 to authorize designations of areas and routes for OHV use. BLM's planning regulations (43 CFR 8341), as mandated by Executive Order 11644, require that all public lands be designated as "open," limited," or "closed" to OHV use. Within "open" areas, all types of vehicle use are permitted anywhere in the area, subject to operating regulations and vehicle standards provided in 43 CFR 8341 and 8342. Within "closed" areas, all OHV use is prohibited. Within "limited" areas, individual roads, primitive roads, and

trails can be designated as "open," "closed," or "limited," and BLM must establish permitted types or modes of travel, time or season of use, allowable vehicle types, authorization or permit requirements, and other types of user limitations.

Numerous CDCA Plan amendments since 1980 have added or modified specific route designations within the "limited" areas in the planning areas. These designations occurred through a West Mojave-wide effort in the middle 1980s, during the preparation of ACEC plans beginning in the 1980s, and during a mid-1990s pilot project at Ord Mountain. These efforts designated 3,266 miles of open routes within the planning area, and are described in more detail below.

1985-87 Off-Road Vehicle Designations

BLM conducted a field and map inventory of OHV routes on public lands throughout the planning area in the mid-1980s and, based upon that inventory, identified a network of open motorized vehicle access routes. BLM personnel inventoried and evaluated existing routes of travel. Information from existing maps and aerial photos was supplemented by field checks. This information was then utilized to create a known route inventory that primarily consisted of known "two-track" routes (i.e. "single-track" motorcycle routes were generally not part of the inventory). Public meetings were conducted and members of the public also reviewed these route inventories. Criteria for determining which routes were to remain open was based upon public access needs, recreational values and resource conflicts. Following public meetings, decisions to designate the route network were announced.

On August 21, 1985, BLM published a Notice in the Federal Register titled Off-Road Vehicle Designation Decisions; Ridgecrest Resource Area, CA (Federal Register, Vol. 50, No. 182). Two years later, on June 19, 1987, BLM published Federal Register notice titled Off-Road Vehicle Route Designation Decisions for the California Desert District (CDD), Barstow Resource Area (Federal Register, Vol. 52, No. 118, p. 23364); and, on September 22, 1987 BLM published a Federal Register notice titled Off-Road Vehicle Route Designation Decisions for the California Desert District, Barstow Resource Area (Federal Register, Vol. 52, No. 183, p. 35589). These notices designated 2,949 miles of OHV routes on public lands as open routes.

Some of the lands which were acquired after the 1985-1987 inventory were evaluated in subsequent ACEC Plans or the 2006 WEMO Plan. However, other lands acquired after 1987 were not included in the 2006 WEMO Plan baseline. Those lands were included in the 2012 inventories, and are part of the reason for the increase in the baseline from approximately 7,000 miles in 2006 to approximately 15,000 miles for the current SEIS.

Resource Protection Off-Road Vehicle Designations

Since 1980, many BLM ACEC have identified motorized vehicle access networks through public lands, collectively identifying 317 miles of open routes. Table 3.1-1 lists these plans, together with the date the route network in each was developed.

Table 3.1-1. Pre-WEMO ACEC Route Networks and Principal Recreation Activities

ACEC Name	Size (Acres)	Year	Route Status	Principal Recreation Activities
Afton Canyon	8,830	1989	26 mile designated route system	Camping, vehicular touring, equestrian, rock hounding, recreational mining on outside edges of area.
Amboy Crater National Natural Landmark	639	NA	One access route to parking area.	Geologic exploration, rock hounding
Barstow Woolly Sunflower	19,079	1982	Mapped routes excluded; vehicles excluded From NW ¼ of Section 11; T11N; R6W	Non-vehicular dependent: Hiking, botanizing
Bedrock Springs	786	1987	Mapped designated route system	Access to prehistoric values and Northern portion of the Golden Valley Wilderness Area
Big Morongo Canyon	24,934	1982 and 1996	Mapped designated route system; Routes designated in 2002 Coachella Valley Plan Amendment	Hiking, wildlife viewing, picnicking
Black Mountain	51,261	1988	26-mile designated route system	OHV recreation and touring, equestrian riding, hiking, camping, prehistoric and historic interpretation, recreational mining on northeastern fringe of area, wilderness recreation, in the southcentral Black Mountain subregion.
Calico Early Man Site	834	1984	Mapped designated route system	OHV touring, hiking, camping, prehistoric and historic interpretation, located in the southern portion of the Calico Mountains Subregion.
Christmas Canyon	3,445	NA	No route designation because most of ACEC is within Open area	OHV recreation and touring, historic interpretation. Located in Spangler Hills OHV area and China Lake Naval Weapons Center.
Cronese Basin	8,469	1984	Mapped designated route system	OHV touring, bird-watching, wildlife viewing, in the center of the Cronese Lake Subregion.
Desert Tortoise Research Natural Area	22,230	1988	Designated closed to vehicular use; protected by perimeter fence	Hiking, wildlife viewing, shooting, located in the southwestern portion of the Rands Subregion.

Table 3.1-1. Pre-WEMO ACEC Route Networks and Principal Recreation Activities

ACEC Name	Size (Acres)	Year	Route Status	Principal Recreation Activities
Fossil Falls	1,630	1986	Designated route system	OHV touring, prehistoric appreciation. Located at north end of Sierra subregion.
Great Falls Basin	9,539	1987	Mapped designated route system	OHV touring, picnicking, bird-watching, wildlife viewing. Located just north of Trona.
Harper Dry Lake	485	1982	Mapped designated route system; all routes within 100 yards of marsh vegetation closed.	OHV touring, bird-watching, equestrian riding. Located southwest of Black Mountain Wilderness Area in the Harper Lake Subregion.
Jawbone/Butterbretd	147,832	1982	133 mile designated route system	OHV touring, bird-watching, wildlife watching, rock-climbing. Located in the Jawbone subregion.
Juniper Flats	2,387	1988	Mapped designated route system	Equestrian riding, OHV recreation and touring, access to Deep Creek hot springs. Located north of San Bernardino Mountains, in the western portion of the Juniper Flats Subregion.
Last Chance Canyon	5,135	1982	Designated route system	OHV recreation and touring, historic appreciation, wildlife viewing. Located south of El Paso Mountains Wilderness Area.
Manix	2,907	NA	None	Paleontological and historic interpretation, OHV touring. Located at the western boundary of the Afton Subregion.
Mojave Fishhook	637	1990	Designated route system	OHV touring, botanizing
Rainbow Basin	4,103	1991	30 mile designated route system	Camping, OHV touring, equestrian riding, hiking, geologic, paleontological and prehistoric interpretation. Located in the southwestern portion of the Coolgardie subregion.
Red Mountain Spring (formerly Squaw Spring)	718	1987	Mapped designated route system; area closed to vehicular travel	Prehistoric and historic interpretation. Located in northern portion of Red Mountain subregion.

Table 3.1-1. Pre-WEMO ACEC Route Networks and Principal Recreation Activities

ACEC Name	Size (Acres)	Year	Route Status	Principal Recreation Activities
Rodman Mountains Cultural Area	6,208	NA	Routes outside Rodman Mtns. Wilderness were designated as part of Ord-Rodman Plan	OHV touring and recreation, cultural interpretation, hiking, wilderness recreation. Located in the southern portion of the Rodmans Wilderness in the Newberry Rodmans Subregion
Rose Springs	838	1985	Routes designated closed	Hiking, wildlife viewing, prehistoric interpretation, hunting. Located in north end of Sierra subregion.
Sand Canyon	2,583	1989	Specific route closures	Hiking, wildlife viewing, bird-watching, hunting, cultural interpretation. Located in southern end of the Sierra subregion.
Short Canyon	754	1990	Most of the ACEC routes are closed because they are within wilderness	Hiking, botanizing, wildlife viewing, bird-watching, hunting. Located in Sierra subregion, borders Owens Peak Wilderness.
Soggy Dry Lake Creosote Rings	184	1982	All vehicular routes closed to protect unique vegetation	Botanizing, hiking. Located just south of Johnson Valley OHV area in the Johnson Valley Subregion.
Steam Well	41	1982	Designated route system; All routes closed with inclusion of ACEC in the Golden Valley Wilderness Area	Prehistoric and historic interpretation. Located in southwest edge of Golden Valley Wilderness area.
Trona Pinnacles	4,058	1989	Designated route system	Sightseeing, commercial filming, OHV touring, geologic interpretation. Located in South Searles subregion.
Western Rand Mountains	31,102	1994	128 mile designated route system	OHV touring and recreation. Applied to ACEC and surrounding lands. Located in the Rand Subregion
Whitewater Canyon	13,973	1982	Designated route system	OHV touring, wildlife viewing, hiking.

Ord Mountain Pilot Off-Road Vehicle Designations

In 1995, the BLM undertook a pilot project within the Ord Mountain area to test methods to acquire an inventory of routes of travel. A pilot digital aerial photograph was used together with GIS digitizing equipment to identify 549 miles of existing routes of travel in the area. From this

inventory, BLM identified alternatives, analyzed impacts in an environmental assessment, and adopted a network for the area in a 1995 decision record.

WEMO 2003 Western Mojave Desert Off-Road Designation Project

The 2006 WEMO Plan was prepared through the collaborative effort of city, county, state, and federal agencies which had jurisdiction over lands within the region. To support the development of the 2006 WEMO Plan, these agencies and local jurisdictions cooperated with more than 100 non-governmental organizations (NGOs) including businesses, environmental groups, and user groups. Representatives of the agencies, jurisdictions, and the NGOs comprised the West Mojave Supergroup. In November 1999, the West Mojave Supergroup established four task groups to develop components of the WEMO Plan. Of these, Task Group 2 was developed to address the Motorized Vehicle Access Network.

To assist Task Group 2 and the route designation process, two subcommittees were formed: a field survey advisory group and a route designation technical committee. As the task group process evolved, certain issues would emerge that would result in considerable public interest or controversy, including the design of the motorized vehicle access network. When this occurred, public information meetings were held throughout the desert on an irregular basis. About a dozen of these meetings, attended by a total of approximately 250 persons, were held during the task group process. Many persons who first became involved through these meetings later joined one or another of the task groups.

Between September 2001 and March 2002, thirteen field crews inventoried nearly 8,000 miles of motorized vehicle access routes within the western Mojave Desert. Both four wheel drive and motorcycle crews participated in the survey. Routes were recorded using global positioning system (GPS) technology. The nature of the route (graded gravel, good dirt, motorcycle trail) was recorded, and nearly two dozen types of pertinent desert features mapped (including campsites, mines, trailheads, and water sources). This information was transferred into the planning team's digital GIS library. In addition, data collected by BLM field survey crews in 1985 and 1987, and during the preparation of BLM management plans for ACECs between 1980 and the late 1990s, was digitized and stored in the GIS database. This data was supplemented by data digitally collected from aerial photography taken in 1995 and 1996, and covering most public lands within the planning area.

In the 2001 and 2002 field inventory, BLM conducted its route inventory of the most environmentally sensitive areas (in terms of biological resources) to make some route specific adjustments to the 1985 and 1987 CDCA amendments. The 2001 and 2002 field inventory was conducted in 10 of the 21 subregions identified in the 2003 planning effort. A description of these field-surveyed sub-regions is provided in Table 3.1-2.

Table 3.1-2. Off-Road Vehicle Designation Subregions

Sub Region	Principal Recreation Activities	Route Mileage Designated Open 1985-87	Route Mileage 2001 Route Inventory	Comments
Coyote	Rock hounding, off-highway touring/sightseeing, mining.	178	411	Calico Early Man Archaeological Site, Cronese Lakes ACEC, and Soda Mountains Wilderness Study Area. OHV recreation relatively light. Most OHV activity occurs in southwestern sectors.
El Mirage	OHV, recreational mining	49	267	El Mirage OHV recreation area borders sub region to the south. Area of more historic use than current use. Once more popular for races which have since shifted to the Open Areas. Edwards bowl in the western sector popular as a motorcycle area creates some conflicts with adjoining private property owners. Shadow Mountain once very popular with motorcyclists. Use now restricted due to conflicts with hamlet of Shadow Mountain to the south. Bajadas north of Shadow Mountain have been found to have higher than average desert tortoise sign.
El Paso	OHV use, rock hounding, shooting/hunting.	324	465	Last Chance Canyon ACEC and El Paso Mountains Wilderness abut the sub region. Very mountainous area universally popular for a variety of visitor types including jeepers, motorcyclists, miners, campers, rock hounders, equestrians, historical explorers and upland game hunters
Fremont	OHV use, shooting/hunting, rock hounding, equestrian riding, hiking, recreational mining.	214	582	Contains Barstow Woolly Sunflower ACEC, Harper Dry Lake ACEC, and the Black Mountain Wilderness. Northern hilly sectors very popular longstanding MC area; Gravel Hills and Hamburger Mill northwest of Fremont Peak known for long-term historical use. Bajada areas in the southern sectors not nearly as popular as the above-described areas to the north. Bajadas areas in the south and central sector known for historically high populations of desert tortoise.
Kramer	OHV use/dual sport, rock hounding, shooting/ hunting	254	642	Mining and homestead site established in the late 19th and early 20th century exists in the area, some of which may have historical significance.

Table 3.1-2. Off-Road Vehicle Designation Subregions

Sub Region	Principal Recreation Activities	Route Mileage Designated Open 1985-87	Route Mileage 2001 Route Inventory	Comments
Middle Knob	OHV touring/sightseeing, camping, hiking, hunting	N/A	91	Cultural resources are significant in the sub region. Contains biological values of special concern, including habitat for desert tortoises.
Newberry-Rodman	Equestrian, OHV touring, sightseeing, dual sport, rock hounding, mining	142	210	Sub region contains the Newberry Mountains Wilderness, the Rodman Mountains Wilderness and the adjoining Rodman Mountains ACEC. Rock art and cultural sites are within the sub region.
Ord	Recreational mining, OHV touring/ sightseeing	38	549	The historic Ord Mountain Road and the Daggett Wash Road are accessible by four-wheel drive vehicles and motorcycles (OHV/dual sport). The Stoddard Valley OHV Recreation Area to the west and the Johnson Valley OHV area to the southeast of the sub region provide for OHV/dual sport activities.
Red Mountain	OHV touring/sightseeing, shooting hunting, OHV/ dual sport, hiking, equestrian riding, mining.	234	733	The Grass Valley Wilderness is partly contained in the sub region and the Golden Valley Wilderness borders the sub region to the north. These bajada areas in the central west sector west of Cuddeback Lake, are known for historically high populations of desert tortoise and extremely high historical mining activity.
Ridgecrest	Hiking, equestrian OHV/dual sport	106	328	The Rademacher Hills trails open to the hiking, jogging, horseback riding and mountain biking.
Superior	OHV/dual sport, rock hounding, camping, mining.	396	668	Contains the Rainbow Basin National Natural Landmark ACEC. The Black Mountain Wilderness lies to the west of the sub region and the Calico Mountains lie to the south east of the sub region.

The updates to eight of these subregions along with minor revisions to the 1985-87, and ACEC Off Road Vehicle designations served as the basis for the evaluation in BLM's 2003 Environmental Assessment and Decision Record for the Western Mojave Desert Off-Road Vehicle Designation Project. The minor revisions occurred in the North Searles and El Mirage subregions, Black Mountain ACEC along with edge matching efforts at 25 locations to align the ACEC, 1985-87, and 2002 designation boundaries. For the El Paso Mountains and Ridgecrest subregions the existing 1985-87 network was adopted until completion of a collaborative planning effort that with

local jurisdictions and the general public. Upon completion of this collaborative effort and NEPA analysis the route network will be amended.

The purpose of the 2003 Western Mojave Desert Off-Road Vehicle Designation Project was to update the existing West Mojave route designations, and to adopt the revised route network as a component of the CDCA Plan, while the 2006 WEMO Plan was under development. The 2003 Designation Project evaluated four route network alternatives developed to meet enhanced ecosystem protection and enhanced recreation objectives. The resulting Record of Decision selected Alternative A, which was based on the existing route designations, modified to incorporate a revised network within desert tortoise critical habitat and other sensitive resource areas. That network, totaling 5,098 mile of routes, served as the basis for the route network alternatives evaluated in the 2006 WEMO Plan.

3.1.1.3 2006 WEMO Plan

The route designations adopted in the 2003 route designation effort were then considered as the baseline for the No Action Alternative in the development of the 2006 WEMO Plan. The baseline was then subjected to minor modifications and a field survey in one additional subregion—Juniper Flats. The EIS for the 2006 WEMO Plan evaluated seven alternatives which addressed various use restrictions, using the findings in the 2003 route designation effort as a point of departure. With respect to travel management, the use restrictions on the routes varied among the 2006 WEMO FEIS alternatives, but the overall mileage of the network did not vary. The proposed network evaluated in the 2005 WEMO FEIS consisted of the 2003 network with modifications in specific areas. The Record of Decision (ROD) adopted the FEIS proposed action with minor modifications, resulting in the 5,098 mile network of the 2006 WEMO Plan.

Vehicle Access Decisions in 2006 WEMO ROD

In 2006, the BLM approved a comprehensive amendment covering the WEMO Planning area of the CDCA. Key elements of the CDCA Plan that were updated for the WEMO Planning Area include the Wildlife Element, the Vegetation Element, the Grazing Element, the Recreation Element, and the Motor Vehicle Access Element.

The vehicle route network approved in the 2006 WEMO Plan was based on the 2003 vehicle route network, with the following modifications:

- The mileage of non-motorcycle routes in higher density tortoise population areas was decreased from 439 miles to 384 miles;
- The mileage of vehicle routes within ACECs was reduced from 427 miles to 406 miles; and
- Within the Juniper subregion, a redesigned vehicle access network of 73 miles of open routes and 25 routes that would be limited to use by single-track vehicles (motorcycles) replaced the 152 miles of open routes that had been adopted in 2003.

Overall, the 2006 WEMO Plan included modification of the vehicle management decisions, including OHV route designations, on more than 3 million acres of public land within the CDCA. The ROD for the 2006 WEMO Plan approved the designation of 5,098 miles of motorized vehicle routes.

The 2006 WEMO Plan Amendment approved a total of 12 separate decisions, each affecting multiple geographical areas with the planning area. Most of the decisions focused on establishment or adjustment of ACECs for biological resources and changes to multiple use classes to reflect an increased resource protection balance. The specific decisions related to Motorized Vehicle Use and route designations made in the 2006 WEMO ROD, are as follows:

- Decision 5: Recommendations made in the 1994 Rand Mountains-Fremont Valley Management Plan were adopted, including adoption of the proposed motorized vehicle access network to be managed with an educational permit system.
- Decision 6: The motorized vehicle access network in the Afton Canyon Natural Area was adopted.
- Decision 9: The motorized vehicle access network in the remainder of the planning area was adopted, and included minor modifications of the 2003 route network, a redesign of the Juniper subregion, and route closures in the Lane mountain milkvetch ACEC, Barstow woolly sunflower ACEC, the Mojave monkeyflower ACEC, and the Red Mountain subregion. The approved network also included the opening of a 9-mile undesignated route east of Haiwee Reservoir, and establishment of competitive "C" routes northeast of the Spangler Hills Open Area.
- Decision 10: The Stopping, Parking, and Camping Section of the CDCA Plan Motorized Vehicle Access Element was modified to incorporate restrictions within DWMAs, including limiting camping to previously existing disturbed camping areas adjacent to open routes and limiting stopping and parking to within 50 feet of the centerline of open routes.
- Decision 11: The portion of the Barstow to Vegas Race Course within the WEMO Planning area was deleted.
- Decision 12: The use of the Stoddard Valley to Johnson Valley Connector was modified to establish a connector route, and to delete its availability for competitive speed events.

In addition to decisions that were proposed in the 2005 EIS, the 2006 ROD made modifications as a result of resolution of protests. These modifications included specific changes to route designations in the Red Mountain, Ord, Newberry Rodman, Fremont, and Juniper Subregions, and in Stoddard Valley. The specific routes designations are listed in the 2006 ROD.

The 2006 WEMO ROD also continued the administrative closure affecting 26 miles of selected dirt roads in a 17,000-acre area of the Rand Mountains, in order to allow time to complete work necessary to implement an educational program and permit system for recreational users.

The following seven management prescriptions for motorized vehicles (designated as "MVs" in the FEIS) were proposed as take avoidance measures:

- Open Routes (MV-1): Routes designated open would be available for a variety of uses including commercial, recreational, casual access, and non-competitive permitted uses. No motorized vehicles would be allowed to travel off of designated routes, except in emergency situations, or with the explicit permission of the BLM, or as specifically noted below.
- Speed Limits (MV-2): With respect to speed limits on unimproved roads, current law would apply. Basic Speed Law (38305) of the 2001 Vehicle Code, Traffic Laws states: "no

person would drive an off-highway motor vehicle at a speed limit greater than is reasonable or prudent and in no event at a speed which endangers the safety of other persons and property."

- Speed Regulators (MV-3): Within DWMAs, there is no proposal to install speed regulators; however, if monitoring or studies show that certain unimproved roads are causing increased tortoise mortality, the BLM will consider ways, including speed regulators, to reduce or avoid that mortality.
- Washes (MV-4): On public lands, motorized vehicle travel in washes would be allowed only in those washes that are designated as "open routes" and signed as appropriate.

Livestock Grazing Decisions in 2006 WEMO ROD

The 2006 WEMO Plan Public Land Livestock Grazing Program contained a total of 29 management perscriptions (LG). Key additions to the CDCA Plan Livestock Grazing Objectives made in the 2006 WEMO Plan that are not proposed for change are listed below. The adoption of regional standards and guidelines are dependent upon approval by the Secretary of the Interior.

1. Adopt and Implement Regional Standards of Rangeland Health and Guidelines for Grazing Management in the West Mojave Planning area, consistent with 43 CFR 4180 et.seq., and Conform Grazing Activities to the Standards.
2. Discontinue livestock grazing in DWMA allotments that are voluntarily relinquished and reallocate all of the AUMs from livestock forage to wildlife use and ecosystem functions, upon compliance with the terms identified in the land use plan. Voluntarily relinquished allotments would be unavailable for grazing.
3. Further limit livestock grazing in DWMAs and other sensitive areas within the WEMO Planning area. Specific elements of this objective include elimination of ephemeral cattle grazing, substantial limitation of sheep grazing within DWMAs and other sensitive areas (see pages 2-131-133 of the 2005 WEMO FEIS), elimination of ephemeral and temporary non-renewable (TNR) permit authorizations for cattle allotments within DWMAs, and increasing ephemeral forage production requirements before livestock turnout in other desert tortoise habitat. Livestock grazing would continue on the Valley Well Allotment.

Finally, the WEMO 2006 ROD incorporates the terms and conditions of the Biological Opinion (BO) issued on January 9, 2006 by the U.S. Fish and Wildlife Service (USFWS) and amended by the USFWS on November 30, 2007 to minimize impacts from the livestock grazing program.

3.1.1.4 Post WEMO Changes to Vehicle Access Management

In August 2006, a lawsuit was filed challenging the route designation process used in the 2006 WEMO Plan and the route designations resulting from the analysis of impacts in the 2006 WEMO Plan. In January 2011, a United States District Court for the Northern District of California (the Court) order remanded the 2006 WEMO ROD to the BLM. The Court issued a Summary Judgment order on September 28, 2009, and a Remedy Order on January 28, 2011. The Remedy Order remanded the 2006 WEMO ROD to the BLM and directed the BLM to amend the CDCA Plan and reconsider route designation throughout the WEMO Planning area, among other things.

The specific issues related to route designation that were remanded for re-evaluation are as follows:

- Sufficiency of the No Action Alternative: According to the Court's Summary Judgment order, the 2005 EIS did not sufficiently explain that the routes contained in the No Action Alternative (inclusive of post-1980 routes), was larger than both the 1980 and 1985-1987/ACEC networks, and was smaller than the 2001-2002 inventoried network. In addition, the discussions of the No Action network throughout the EIS were not consistent. Some specific examples were raised, including Table 3-58 and Table 4-45. Instead of alternatives being compared only to the No Action Alternative, they were also compared to the 1985-1987 network, the 2001-2002 inventory, and the 2003 EA network. The Court stated that a single No Action network needs to be defined, described, and then used as the basis for comparison for all impacts.
- Inclusion of post-1980 routes in alternatives: In its discussion of "limited" areas, the CDCA Plan states that ". . . use will be restricted to existing routes of travel." The Court noted that this statement is problematic in that BLM did not have an inventory of the routes that existed in 1980. The Court interpreted this language to prohibit the designation of any routes as "open" or "limited" that did not exist before 1980. The Summary Judgment order does state that BLM can designate additional routes that did not exist in 1980 (Summary Judgment Order, Pg. 36, lines 13-16). However, to do so, BLM must amend the language that restricts the network to pre-1980 routes. That amendment would need to be done in accordance with NEPA and FLPMA, and would have to explain why inclusion of post-1980 routes is justified.
- Criteria Used for Route Designations: The Court ruled that the BLM's rational for making their route designations was not complete, and did not address the requirements of 43 CFR 8342.1. The Court also cited specific resources (soils, cultural resources, Unusual Plant Assemblages and riparian areas, Mojave fringe-toed lizard, and air quality) for which analyses were not complete, and needed to be re-visited.
- Reasonable Range of Alternatives: The Court ruled that the 2005 WEMO FEIS's inclusion of the same route network in each of the evaluated HCP alternatives violated NEPA.

These decisions of the Court provide an additional framework in which the current effort to establish a route network must be developed.

Also, the Court left the following specific issues related to travel management, the route network and livestock grazing in place during remand:

- Provisions allowing for grazing allotments to be voluntarily relinquished, certain areas to be designated as not available for grazing, and any subsequent decisions to relinquish or retire grazing allotments;
- The restrictions on motorized vehicle stopping, parking, and vehicular camping;
- The deletion of the portion of the Barstow to Vegas Race Course within the WEMO Planning area;
- All routes that were closed in the ROD remain closed;
- The policy that all routes should be considered closed unless signed "open;"

- Allowable use of OHVs on the route network that are not "street legal;" and
- Route designations made in the Juniper Flats, Wonder Valley, and Edwards Bowl areas.

Specific route network-related issues that were vacated by the Court include:

- Adoption of the route network in the Rand Mountain-Fremont Valley Management Plan;
- Adoption of the route network in the Afton Canyon Natural Area; and
- Establishment of a connector route in the Stoddard Valley to Johnson Valley Corridor.

As specific mitigation measures ordered to be implemented during remand, BLM was required to do the following:

- Provide the Court with a detailed Implementation Plan;
- Update all BLM-produced and available maps to include accurate and up-to-date route information, including a statement regarding restriction of motorized use to "open" routes only;
- Provide the Court with a monitoring plan to determine compliance with route closures and whether new illegal routes were being created;
- Perform additional monitoring regarding air quality, Mojave fringe-toed lizard and its habitat, and riparian areas and Unique Plant Assemblages;
- Provide a plan for maintenance of the open route network;
- Provide a plan for additional enforcement capability; and
- Provide quarterly progress reports.

3.1.1.5 Other Recent Policy and Planning-Related Post 2006 WEMO Developments

Since the 2006 WEMO ROD, the public lands included within the planning area have been subject to additional BLM planning efforts and CDCA Plan amendments. These changes are part of the baseline conditions. In addition, post-WEMO implementation activities have been undertaken. Major efforts are summarized as follows:

- BLM has completed renewal evaluations, including Environmental Assessments (EAs) and rangeland health assessments, for 28 grazing allotments within the planning area since 2006. Also, several allotments have been voluntarily relinquished since the 2006 WEMO Plan was completed. The EAs all evaluated route designation and OHV use within each allotment as part of their cumulative analysis. Also, several of the EAs specified that the allotments had been modified and, in some cases, voluntarily relinquished, as part of the 2006 WEMO Plan. The specific information related to the allotments is presented in Section 3.7 of this Draft SEIS.
- In 2012, Congress passed and the President signed the 2012 Appropriations Act (Public Law 112-74, 125 Stat. 1048, Dec 23, 2011). This Act provided that the Secretary of the Interior "shall accept the donation of any valid existing permits or leases authorizing grazing on public lands within the California Desert Conservation Area. With respect to each permit or lease donated under this paragraph, the Secretary shall terminate the grazing

permit or lease, ensure a permanent end (except as provided in paragraph (2)), to grazing on the land covered by the permit or lease, and make the land available for mitigation by allocation the forage to wildlife use consistent with any applicable Habitat Conservation Plan, section 10(a)(1)(B) permit or section 7 consultation under the Endangered Species Act of 1973". Under this authority, two allotments have been donated within the WEMO Planning area—Lava Mountain and Walker Pass Common Allotments. Consistent with the 2012 Appropriations Act, the permanent relinquishment of these two allotments has been accepted, grazing allotment boundaries were updated, and AUMs were reallocated from livestock forage to wildlife use and ecosystem functions. The CDCA Plan will be conformed to reflect these changes.

- Activity-specific route designations: BLM land throughout the WEMO Planning area continues to be available for, and subject to, permit and ROW applications for a variety of activities, as are allowable under BLM regulations and the CDCA Plan. These applications include solar, wind, and energy transmission projects; installation and operation of communications towers and pipelines; access to mining operations and exploratory activities, and permitted recreation events. Most projects require access for project construction and operation, and this access often needs to be provided in whole or in part, through construction and authorization of new routes.

- In July 2012, BLM and the Department of Energy (DOE) published the Final Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States, which included consideration of the WEMO Planning area in California. The PEIS ROD designated lands within the WEMO Planning Area as either exclusions areas or variance areas. Exclusion areas are unavailable for utility-scale solar energy development. The BLM considers any application for utility-scale solar energy development within variance areas after following a process outlined in the PEIS ROD. The PEIS considered the potential impact of solar development on the National Historic Trail System, and on routes of travel. The PEIS noted that solar development may require closure of designated OHV routes. In response to these impacts, the PEIS proposed design features to mitigate impacts, including rerouting roads around solar developments, and considering replacement of acreage for lost recreational opportunities.

- The California Desert Renewable Energy Conservation Plan (DRECP) is a landscape-level planning effort currently underway in California, and was released as a Draft Plan/DEIS in September, 2014. The DRECP covers approximately 22.5 million acres of federal and nonfederal land in the Mojave and Colorado (Sonoran) Deserts in southern California. The DRECP is a Habitat Conservation Plan in accordance with the Endangered Species Act and a Natural Communities Conservation Plan in accordance with the California Natural Communities Conservation Planning Act. The purpose of the DRECP is to advance state and federal species and ecosystem conservation goals, while also facilitating the timely permitting of renewable energy projects. The DRECP includes a potential amendment to the CDCA Plan and other BLM land use plans. Through this potential land use plan amendment, BLM is proposing to use the DRECP to identify priority areas for renewable energy development called Development Focus Areas (DFAs), to include other renewable energy types other than solar including wind and geothermal), to modify the PEIS's solar energy zones (SEZs), and/or to identify additional exclusion areas. Although the DRECP includes potential amendment of the CDCA Plan, existing land use plan decisions remain

in effect during an amendment until the amendment is completed and approved (BLM Land Use Planning Handbook H-1601-1; March 2005 page 47).

- Lands are being inventoried to identify those with wilderness characteristics. While the original Wilderness Act did not apply to the BLM, with the passage of FLPMA in 1976, Congress directed the BLM to inventory, study, and recommend those public lands under its administration that should be designated as wilderness. The BLM's authority to conduct wilderness studies and to establish new Wilderness Study Areas (WSAs) expired in 1991, pursuant to Section 603 of FLPMA. However, in accordance with Section 201 of FLPMA, the BLM is required to maintain an inventory of public lands under its jurisdiction and determine those lands inventoried for wilderness characteristics outside of WSA or units of the National Wilderness Preservation System. This process is further described below in section 3.11.2 Lands Inventoried for Wilderness Characteristics.

3.1.2 Area Profile

The remainder of Chapter 3 describes the affected environment of the BLM-administered public lands within the WEMO Planning area as it relates to the West Mojave Route Network Project (WMRNP) and livestock grazing in Section 3.7. A complete description of the resources can be found in the CDCA Plan and EIS, as well as the 2005 WEMO FEIS, both of which are incorporated by reference (40 CFR 1502.21). The following subsections summarize how resource conflicts, land uses, and social and economic conditions have contributed to the development of the transportation network and travel management policies in the area.

In general, the existing route network, most of which was in place before 1980, was primarily developed in response to land use needs and social and economic factors. It was only after FLPMA, the Wilderness Act, NEPA, the Endangered Species Act, and other resource-focused legislation and policies were implemented that resource conflicts became a factor in development of the transportation network and travel management policies. In recent years, further development of the transportation network and travel management policies has represented an attempt to strike a balance between protecting resources and serving land use and social needs.

3.1.2.1 Resources

Resource conflicts in the WEMO Planning area have been, and continue to be, considered in the development of the transportation network, travel management policies, and the management of livestock grazing in the following ways:

- NEPA analysis and carrying capacities identified in the CDCA Plan;
- Broad-scoped, region-wide amendments to conserve plant and animal species and their habitats and to prevent future listings, including establishment of DWMAs and ACECs;
- Broad-scoped, region-wide analysis of the transportation network; and
- NEPA analysis of route-specific proposals associated with applications for land uses.
- Grazing prescriptions contained in the 2005 WEMO FEIS.
- Rangeland Health Assessments and allotment specific EAs.

Section 3.1.1.2 above discusses the original CDCA Plan, and subsequent amendments, which established OHV Open Areas, route designations, an implementation framework Motorized Vehicle Access Objectives and the management of livestock grazing. Each of these was considered within the overall framework of the CDCA Plan Goals, which were to provide for the use of the public lands and resources of the CDCA in a manner which enhances wherever possible, and does not diminish, on balance, the environmental, cultural, and aesthetic values of the desert and its productivity.

The CDCA Plan has undergone three regional amendments to protect biological resources, including the Northern and Eastern Mojave (NEMO) amendment of 2002, Northern and Eastern Colorado (NECO) amendment of 2002, and the WEMO Plan amendment of 2006. Specifically, the 2006 WEMO Plan was a cooperative, interagency effort to provide a regional biological strategy to conserve plant and animal species and their habitats and to prevent future listings, and an efficient, equitable, and cost-effective process for complying with threatened and endangered species laws. These Plan amendments, including the WEMO Plan, have been used as mechanisms to establish DWMAs and ACECs to protect sensitive biological, cultural, and other resources. Each of these amendments has evaluated current and future land uses, including OHV, other recreational uses, and livestock grazing for their potential to impact those resources, and placed constraints on those uses in order to protect resources.

Also discussed in Section 3.1.1.2 above, BLM has implemented several efforts since 1985 to analyze and update the transportation network within a specific region within WEMO, or across WEMO as a whole. These included the 1985-87 Off-Road Vehicle Designations, the ACEC Plan designations, the Ord Mountain Pilot Off-Road Vehicle Designations, the WEMO 2003 Western Mojave Desert Off-Road Designation Project, and the 2006 WEMO Plan itself. The Ord Mountain Pilot Project and 2003 Off-Road Designation Project were both analyzed in EAs which considered resource impacts associate with the selected route networks. Similarly, the 2006 WEMO Plan considered the existing network within the framework of the resource-protection goals of the Plan.

In addition to these regional-scale efforts, resource conflicts associated with access are also considered on a route-specific basis when applications for proposed land uses are evaluated. In considering these applications, BLM is required by NEPA to evaluate impacts to sensitive resources, as well as alternatives which can avoid, reduce, or mitigate impacts.

Regional-scale efforts to address conflicts between livestock grazing and other resources have also been considered in allotment specific EAs prepared between 2006 through 2013. These EAs are required to fully process grazing permit and lease renewals. A rangeland health assessment was conducted on all active grazing allotments with the planning area to determine if fallback standards and guidelines were being achieved. If it was determined that an applicable fallback standard or guideline was not being achieved, BLM is required to develop management actions that would achieve the fallback standard or guideline or make postivie progress in the achievement of an applicable fallback standard or guideline. This type of information was analyzed in those allotment specific EAs. BLM issued proposed and final grazing decisions (see 43 CFR 4160) that stipulated the terms and conditions for the management of livestock grazing on public land within the West Mojave Planning Area and elsewhere within the CDCA.

3.1.2.2 Land Uses

Land uses in the WEMO Planning area which require transportation access include grazing operations and access to range improvement, energy, mining, and communications facilities. In general, the effect of land use applications is to expand the transportation network by implementing new routes for access to the specific sites. For land uses which occur in a limited area, such as solar energy plants or mines, the access need is usually limited to a single new route to connect the proposed facility to a local highway. Other proposed land uses, such as wind farms or communication sites, can involve a large number of individual sites scattered over a large area, each site requiring its own access. Finally, several potential land uses, including transmission lines and pipelines, are linear in nature, and can require implementation of a single new route that is tens or hundreds of miles long. In general, the locations of the proposed facilities are driven by the availability of a resource at that location, such as a specific mineral deposit, topographic position, or solarity. As a result, the configuration of the resulting route network is partially driven by the locations of these resources, with limited options available to avoid specific resources.

For these land use projects, the project-specific NEPA analyses consider resource-specific impacts of the proposed site access as well as the facility itself. In fact, the CDCA Plan specifically designated utility corridors to accommodate linear projects in order to minimize proliferation and resource impacts, including impacts associated with their associated access routes. In cases where implementation of a new route cannot be avoided, these NEPA analyses consider alternative route locations or use limitations to avoid, reduce, or mitigate impacts.

3.1.2.3 Social and Economic Conditions

The route network in the WEMO Planning area has also been developed in response to social and economic factors, including locations of population and employment centers, and the resulting need for recreational opportunities. The major factor in the development of the motorized vehicle access network in the region has been growth in both population and employment opportunities in the Victor Valley, Barstow, and Ridgecrest. Historically, the WEMO Planning area has served as a transportation corridor for rail and highway access between the Los Angeles area, a major port and population center, and the remainder of the country. The crossing of the planning area by Interstate Highways I-15 and I-40 not only supports the interconnection between Los Angeles and the rest of the country, but has provided impetus for localized population growth and employment in communities adjacent to these highways.

As population has grown in these areas, the need for transportation access to recreational opportunities for these people has also grown. The access needs include routes to access specific recreational locations such as parks and camping and hiking areas, as well as routes to support OHV-focused activities.

Since the CDCA Plan was approved in 1980, the livestock industry in the California Desert has undergone major decline, especially in the last 10 years. Grazing operations on public land within the planning area are generally small family operations. As the permittee or lessee ages and is less able to run their grazing operation stocking rates typically decline. Unless a younger family member or partner is capable of maintain the grazing operation stocking rates decline, maintenance of range improvements suffers and usually no new range improvements are developed. This trend has been especially hard on the sheep industry. Very few sons or daughters follow in their parents'

footsteps and continue the family sheep operations. Overall, the AUMs that BLM authorizes have decreased from its peak of nearly 40,000 AUMs in 1992 to less than 2,000 in 2013.

The cattle and sheep markets have also experienced substantial fluctuations over the past 30 years. These markets have a great deal of influence on family incomes and fluctuations in stocking rates. The overall costs of running a grazing operation has nearly doubled over the past 30 years while market returns have been fairly static along with BLM grazing fees.

3.2 Air Quality

3.2.1 Climate

The West Mojave (WEMO) Planning area is a desert characterized by hot summer temperatures (average daily highs above 100 degrees Fahrenheit) and low annual precipitation (approximately 5 inches). Snow can occur during the winter. Probably more important than the averages is the extreme variability in the weather. Daily temperature ranges of 40 degrees can occur. Precipitation extremes are also common; variations of 80 percent in annual precipitation can occur. Summer thunderstorms can drop more precipitation on a site in one event than the mean annual precipitation for that location. High winds can occur. Peak wind velocities above 50 miles per hour (MPH) are not uncommon and winds of 100 MPH occur every year.

Temperature: Extremes of temperature are common in the planning area. Below or near freezing temperatures are common at most weather stations. Seven of thirteen stations have average low temperatures below freezing in December and January. El Mirage has the lowest average temperatures in the planning area and Twentynine Palms has the highest average temperatures. Average daily temperature variation is 29 degrees for all stations. Seasonal variations are high. Ridgecrest, for example, has recorded highs of 118 degrees and lows of 0 degrees since the mid-1980s.

Precipitation: Deserts are noted for their low rainfall and the Mojave Desert is no exception. The blocking nature of the mountains on the western and southern boundaries of the desert results in a rain shadow on the desert side of the mountains where precipitation is far less than on the coastal side. Weather patterns and their resulting precipitation follow the seasonal wind patterns and changes. This results in winter precipitation generally arriving from the southwest and spreading eastward across the desert. Winter precipitation volumes normally are the highest in the western Mojave Desert and diminish toward the east. This is illustrated in the mean precipitation for western locations such as Lancaster and Mojave (over 6 inches) and eastern cities such as Twentynine Palms (4 inches).

All of the weather stations in the planning area receive some of their precipitation as snow. The total average snowfall ranges from under one inch in Trona to over three inches at Haiwee Reservoir and Lancaster.

A cyclic weather phenomenon called the El Nino brings increased precipitation to portions of the eastern Pacific Rim. This is especially true in the western Mojave Desert. Weather Bureau records indicate that there have been 23 El Nino years since 1931. These 23 years represent approximately 1/3 of the years, but on the western edge of the desert, those years account for 65 percent of the precipitation. This east to west variability is also reflected in the pronounced east to west difference in the influence of the El Nino years. In Twentynine Palms, for example, only 44 percent of the precipitation falls in El Nino years as opposed to 65 percent along the western edge of the desert.

During the summer the western edge of the Mojave Desert is heavily influenced by the dry southwest airflows resulting in typically very dry weather. The influence of the southwest winds diminishes toward the eastern Mojave Desert. This results in a more continental influence and its resulting monsoonal weather patterns. This is illustrated by comparing Randsburg (along the western edge of the planning area) with Needles (in the eastern Mojave). In Randsburg, only two percent of the Julys and six percent of Augusts have more than 1 inch of precipitation. By

comparison, in Needles, more than 1 inch of monthly precipitation falls in sixteen percent of the Julys and twenty-seven percent of the Augusts. Even sites within the eastern portion of the planning area (such as Twentynine Palms) average more precipitation in July and August than they do in January and February.

The consistent occurrence of two wet seasons in the eastern portion of the planning area is reflected in the vegetation. There is a distinction between plants having most of their photosynthetic activity during the late spring and summer (warm season plants) and plants having most photosynthetic activity during the winter (cool season plants). The vegetation in the eastern Mojave Desert includes warm season plants such as Mojave yucca (*Yucca schidigrea*), galleta grass species (*Pleuraphis spp.*), and others in addition to the cool season plants. The warm season plants are absent from the western edge of the desert. The break between the warm season area and the cool season area follows a north south line along the Mojave River and just west of Harper Dry Lake. The cool season areas are the Indian Wells and Searles Valleys south through the Antelope Valley and east to near the Mojave River.

Extreme variability is another characteristic of the precipitation. Some locations such as Mojave have a mean precipitation of 6.06 inches and a standard deviation of 4.04 inches. This means that the normal precipitation ranges from a low of 2.02 inches to 10.10 inches. This is an 80 percent variation in precipitation volumes.

The annual precipitation cycle in the Mojave Desert shows two distinctive patterns that approximately divide the region along the 117°W meridian, which is near Barstow, California (USGS Fact Sheet 117-03, Hereford, R, et al.). A biseasonal pattern prevails at 90% of the weather stations used to collect data that lie east of 117°, whereas a winter-dominant pattern is typical of 70% of the stations lying west of 117°. In both cases, May and June are consistently dry, accounting for less than 5% of annual rainfall. October through April precipitation of the winter dominant pattern accounts for 82% of the annual total, whereas the biseasonal pattern accounts for 66%. During the warm months of July through September, 13 and 29% of the annual total falls in the winter-dominant and bi-seasonal patterns, respectively.

Cool-season precipitation is the most important and extensive source of rain in the desert region. Rainfall is widespread and of relatively long duration during the cool season. Warm-season precipitation results largely from convective precipitation in the form of thunderstorms. Although rather infrequent, the most dramatic precipitation source is tropical cyclones and hurricanes (often referred to as chubascos) that drift across the region from off the coast of Baja California. These typically occur late in the warm season and are accompanied by widespread and severe flash flooding. The extent and magnitude of warm-season rainfall strongly influences the distribution of desert vegetation. The relative abundance of cacti, many yuccas, agaves, and agave-like plants is much greater where warm-season rainfall is abundant (Rowlands, 1995)

Drought: When precipitation is below average, it is considered a drought. The Palmer Drought Severity Index (PDSI) has become the semi-official drought index. The PDSI uses precipitation and other moisture data to develop a dryness index. The index uses "0" as normal for a site and negative numbers to indicate severity of a drought and positive numbers to indicate excess moisture. A minus 4 is considered a severe drought. The NOAA Drought Information Center has used instrument data in combination with tree ring data to construct a table of PDSI for the period of 1700 to 1995. One of the sites for which data has been collected is just east of Barstow. Using

that data in combination with other PDSI data, it is apparent that a drought occurred from 1951 through 1979 which was the longest in modern times and the most severe in the last 300 years.

3.2.2 Air Quality Regulatory Framework

Emissions limitations are imposed upon sources of air pollutants by rules and regulations promulgated by the federal, state or local agencies. Mobile sources of air pollutants and exhaust from off-road equipment are managed by federal and state agencies through emission performance standards and fuel formulations requirements. Portable sources and temporary activities that cause emissions of air contaminants are also managed through federal, state and local programs. This section summarizes the applicable regulations related to the Proposed Project.

3.2.2.1 Federal Oversight

The Environmental Protection Agency (EPA) implements and enforces the requirements of most federal environmental laws. EPA Region 9 administers federal air programs in California. The Clean Air Act (CAA), most recently amended in 1990, provides EPA with the legal authority to regulate air pollution from stationary and mobile sources. The EPA has authority over conformity issues in areas that do not meet federal air quality standards, and federal land managers have review authority over new projects that may affect federal Class I areas as defined in 40 CFR 51.166.

General Conformity

The General Conformity Rule (40 CFR 51 Subpart W, 40 CFR Part 93 Subpart B) requires federal agencies to ensure that actions taken by those agencies conform to the applicable State Implementation Plan (SIP). General Conformity regulations apply only to direct and/or indirect emissions caused by the actions that occur in areas designated as non-attainment or maintenance areas with respect to the National Ambient Air Quality Standards (NAAQS). If the applicable emissions exceed de minimis thresholds outlined in the General Conformity Rule, then the federal agency prepares a General Conformity Determination for public comment. The General Conformity Determination outlines the methodology by which proposed emissions would conform to the SIP, such as:

- Emissions that are specifically identified and accounted for in the SIP; or
- Emissions that are fully offset or employ a similarly enforceable measure that creates emissions reductions so that there is no net increase in emissions.

Green House Gas Under the Clean Air Act: Public Health and Welfare

On April 2, 2007, in Massachusetts versus EPA, 549 US 497 (2007), the Supreme Court found that Green House Gases (GHGs) are air pollutants covered by the CAA. The Court held that the EPA must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. After an examination of the available scientific evidence on the causes and impacts of current and future climate change as well as other effects of GHGs, the EPA concluded that the science compellingly supports a positive endangerment finding for both public health and welfare. The EPA relied heavily upon the major

findings and conclusions from assessments of the United States Climate Change Science Program (now United States Global Change Research Program), and the Intergovernmental Panel on Climate Change. The EPA proposed this endangerment finding after considering both observed and projected future effects of climate change, key uncertainties, and the full range of risks and impacts to public health and welfare occurring within the United States.

On December 7, 2009, the EPA found that GHGs in the atmosphere threaten the public health and welfare of current and future generations, and that the combined emissions of CO_2, CH_4, N_2O, and HFCs from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these key GHGs and hence to the threat of climate change.

3.2.2.2 State Regulation

California Health and Safety Code § 41700

The Health and Safety Code prohibits the discharge of air pollutants that cause injury, detriment, nuisance or annoyance to the public. The air quality management districts implement this requirement through their local rules.

California Clean Air Act, California Health and Safety Code § 42300 et seq.

The California CAA of 1988 provides for air quality planning and regulation beyond and independent of federal regulations. The California Air Resources Board (CARB) is the state's lead air quality agency and adopts standards for the CAAQS, some of which are more stringent than the NAAQS. CARB is responsible for the attainment and maintenance of NAAQS and CAAQS, oversees the operation of local air quality districts, and is responsible for motor vehicle air pollution control. CARB also assists the individual air districts with air quality monitoring as well as planning activities such as performing air pollutant emission inventories and air quality modeling.

Under delegation from the EPA, CARB and the individual air districts have the primary authority for managing air quality in California.

CARB Off-Road Mobile Sources Emissions Reduction Programs

The California CAA mandates that CARB achieves the maximum degree of emission reductions from all off-road mobile sources in order to attain the state ambient air quality standard. Off-road mobile sources regulations target construction equipment as a major source targeted for reductions to achieve NOx, VOC, CO and PM_{10} exhaust standards. CARB implements control measures to reduce diesel particulate matter emissions as well as NOx from existing off-road diesel equipment, fleet emission targets for new vehicles, and specific limits on emissions from classes of vehicles, including red-sticker and green-sticker off road vehicles.

Local Air Basins

The WEMO Planning area falls within portions of three different air basins. These are the Great Basin Valleys Air Basin (GBVAB), the Mojave Desert Air Basin (MDAB), and the Salton Sea Air Basin (SSAB) (see Figure 3.2-1). The Great Basin Valleys Air Basin includes all of Inyo and Mono Counties. The Mojave Desert Air Basin includes the desert portions of Kern, Los Angeles, San Bernardino Counties and the Palo Verde Valley portion of Riverside County. The Salton Sea Air Basin includes the Coachella Valley portion of Riverside County and Imperial County. The

United States Environmental Protection Agency (USEPA) breaks these air basins into planning areas based upon various emission problems or watershed boundaries.

Air Quality Management Districts

The management and enforcement of the air quality standards falls on several different jurisdictions. The USEPA has the primary responsibilities under the Federal Clean Air Act (CAA). The USEPA has delegated a number of responsibilities to the states and in most cases, also regional air quality management districts. The WEMO Planning area falls within five different regional air districts (see Figure 3.2-2):

- The desert portions of San Bernardino County and the Palo Verde Valley portion of Eastern Riverside County are within the Mojave Desert Air Quality Management District (MDAQMD).
- Inyo and Mono Counties are within the Great Basin Unified Air Pollution Control District (GBUAPCD).
- The Antelope Valley Portion of Los Angeles County is in the Antelope Valley Air Quality Management District (AVAQMD).
- The Coachella Valley portion of Riverside County is within the South Coast Air Quality Management District (SCAQMD).
- The eastern (desert) portion of Kern County is within the East Kern Air Pollution Control District (EKAPCD).

3.2.3 Air Quality Standards

The CAA and the California Clean Air Act contain the primary provisions relating to air quality. Among the most important provisions are the sections relating to the establishment of the National and State Ambient Air Quality Standards, non-attainment areas, the development of state implementation plans (SIP), prevention of significant deterioration (PSD), air toxics and federal general conformity. The USEPA and the California Air Resources Control Board have issued rules to implement the federal and California Clean Air Acts.

The federal and state Clean Air Acts regulate certain forms of pollution under three main categories. These are criteria pollutants, air toxics, and global warming and ozone-depleting gases. There is also regulation of a more general category of emissions that reduce visibility. These come under the titles of regional haze, prevention of significant deterioration (PSD), and visibility reducing particulates (VRP).

The definitions used in determining whether or not an area meets air quality standards are found in the federal and state Clean Air Acts and their associated ambient air quality standards. Criteria pollutants are defined as those pollutants for which the federal and state government have established ambient air quality standards, or criteria, for concentrations in order to protect public health. Under the federal Clean Air Act, the USEPA has established National Ambient Air Quality Standards (NAAQS) for seven criteria pollutants (ozone, respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), carbon monoxide, nitrogen dioxide, lead and sulfur dioxide). These pollutants are described below.

Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate Matter (PM) pollution consists of very small aerosol and solid particles floating in the air. PM is a mixture of materials that can include smoke, soot, dust, salt, acids, and metals. Some PM, such as pollen, is naturally occurring. PM_{10} refers to particles less than or equal to 10 microns in diameter and $PM_{2.5}$ refers to particles less than or equal to 2.5 microns in diameter.

Ozone (O_3)

In the presence of ultraviolet radiation, both nitrogen oxides (NO_x) and volatile organic compounds (VOCs) go through a number of complex chemical reactions to form ozone. The entire WEMO Planning area is designated as non-attainment for the state ozone standard.

Carbon Monoxide (CO)

CO is primarily a byproduct of motor vehicle exhaust, which contributes more than two-thirds of all CO emissions nationwide. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions. These emissions can result in high concentrations of CO, particularly in local areas with heavy traffic congestion. Other sources of CO emissions include industrial processes and fuel combustion in sources such as boilers and incinerators. Despite an overall downward trend in concentrations and emissions of CO, some metropolitan areas still experience high levels of CO.

Nitrogen Dioxide (NO_2) and Nitrogen Oxides (NO_x)

Nitrogen dioxide is a reddish brown, highly reactive gas that is formed in the ambient air through the oxidation of nitric oxide. NO_x, the generic term for a group of highly reactive gases that contain nitrogen and oxygen in varying amounts, plays a major role in the formation of ozone, particulate matter (PM), and acid rain. NO_x emissions result from high-temperature combustion processes such as vehicle exhaust emissions and power plants. Home heaters and gas stoves can also produce substantial amounts of NO_2 in indoor settings. The majority of the NO_x emitted from combustion sources is in the form of nitric oxide (NO), while the balance is mainly NO_2. NO is oxidized by O_3 in the atmosphere to NO_2 but some level of photochemical activity is needed for this conversion.

Sulfur Dioxide (SO_2)

Sulfur dioxide is typically emitted as a result of the combustion of a fuel containing sulfur. Fuels such as natural gas contain very little sulfur and consequently have very low SO_2 emissions when combusted. By contrast, fuels high in sulfur content, such as coal or heavy fuel oils, can emit very large amounts of SO_2 when combusted. Sources of SO_2 emissions come from every economic sector and include a wide variety of fuels in gaseous, liquid and solid forms.

These standards are used to classify all areas as to whether they are in attainment, in non-attainment or are unclassified for any of the NAAQS. California has established California Ambient Air Quality Standards for the same federal criteria pollutants plus an additional four pollutants (visibility reducing particulates, sulfates, hydrogen sulfide, and vinyl chloride).

The Ambient Air Quality Standards for California are almost entirely stricter than the federal standards (see Table 3.2-1).

Table 3.2-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	Federal Standards (NAAQS)[2]	
			Primary	Secondary
Ozone (O_3)	1-hour	0.09 ppm (180 µg/m^3)	--	--
	8-hour	0.07 ppm (137 µg/m^3)	0.075 ppm[4] (147 µg/m^3)	Same as primary
PM_{10}	24-hour	50 µg/m^3	150 µg/m^3 [5]	Same as primary
	Annual	20 µg/m^3	--	--
$PM_{2.5}$	24-hour [3]	--	35 µg/m^3 [6]	Same as primary
	Annual	12 µg/m^3	12 µg/m^3 [7]	Same as primary
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	--
	1-hour	20 ppm (23 µg/m^3)	35 ppm (40 mg/m^3)	--
Nitrogen Dioxide (NO_2)	Annual	0.030 ppm (57 µg/m^3)	0.053 ppm[9] (100 µg/m^3)	Same as primary
	1-hour	0.18 ppm (339 µg/m^3)	0.10 ppm[10] (188 µg/m^3)	Same as primary
Sulfur Dioxide (SO_2)	24-hour	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas)[10]	--
	3-hour	--	--	0.50 ppm (1300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)[11]	--
Lead	30-Day	1.5 µg/m^3	--	--
	Quarterly	---	1.5 µg/m^3 (for certain areas)[12]	Same as primary
	3-Month	---	0.15 µg/m^3 [12]	Same as primary
Sulfates	24-hour	25 µg/m^3	--	--
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm (42 µg/m^3)	--	--
Visibility Reducing Particles (VRP)	8-hour	See Note 13	--	--
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m^3)	--	--

Table 3.2-1. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]	Federal Standards (NAAQS)[2]	
			Primary	Secondary

Sources: CARB 2012a, CARB 2012b

Notes:

ppm = parts per million

ppb = parts per billion

$\mu g/m^3$ = micrograms per cubic meter

PM_{10} = Particulate matter less than 10 microns

$PM_{2.5}$ = Particulate matter less than 2.5 microns

(1) Standards for ozone, CO, SO_2 (1 and 24 hour), NO_2, PM_{10}, $PM_{2.5}$, and VRP are values that are not to be exceeded. All others are not to be equaled or exceeded.

(2) Short-term standards (averaging times of 24 hours or less) for CO and SO_2 are not to be exceeded more than once per year.

(3) Standard attained when expected number of days/year with maximum hourly average concentration above standard is equal to or less than one.

(4) Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years.

(5) Not to be exceeded more than once per year on average over 3 years.

(6) 98th percentile, averaged over 3 years.

(7) Annual mean, averaged over 3 years.

(8) 3-year average of weighted annual mean concentrations.

(9) Annual Mean.

(10) Based on the 3-year average of the 99th percentile of the yearly distribution of 1-hour daily maximum concentrations.

(11) The 3-year average of the 99th percentile of the daily maximum 1-hour average must not exceed 75 ppb.

(12) Standard is based on rolling 3-month average.

(13) Extinction coefficient of 0.23 per kilometer --- visibility of 10 miles or more due to particles when relative humidity is less than 70 percent

Conformity Determination

The classification of an area as a federal non-attainment area brings an additional requirement for federal agencies. Section 176(c) of the Clean Air Act (CAA), as amended (42 U.S.C. 7401 et seq.), and regulations under 40 CFR, part 93, subpart W, state that "no department, agency or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity which does not conform to an applicable implementation plan." This means that under the CAA 176(c) and 40 CFR, part 93, subpart W, (general conformity rules), federal agencies must make a determination that proposed actions in federal non-attainment areas conform to the applicable State Implementation Plan (SIP) before the action is taken.

3.2.4 Existing Air Quality

Much of the time, air quality in the western Mojave Desert is good. There are, however, times that localized areas have not met air quality standards due to locally generated and/or transported in pollutants. Fugitive dust is the most pervasive air pollutant in the WEMO Planning area and includes both PM_{10} and, to a lesser degree, $PM_{2.5}$ components. Fugitive dust pollution in the desert is aggravated by frequent high-wind events, and can be further intensified by prolonged dry conditions and fires, which can also substantially reduce visibility.

Several studies have looked at the ozone pollution problem in the desert areas. The studies show that the peak ozone levels do not correspond to the peak temperatures and ultraviolet (UV) levels, but are occurring much later in the day indicating that the ozone is being formed upwind and is being transported into the area from its sources by the prevailing winds. The South Coast Air Basin and the San Joaquin Valley Air Basin to the west of the WEMO Planning area are both federal non-attainment areas for ozone and are major sources of the wind-transport ozone pollution in the desert.

Heavily impacted areas by ozone transport include the Victorville-Barstow area, the Antelope Valley, and Joshua Tree National Park.

Due to the restrictions for the use of high sulfur fuels, reduction in gasoline and diesel sulfur contents, and reduction in SO_2 emissions from other industrial sources (such as refineries), SO_2 pollution is no longer a major air quality concern in most of California including the WEMO Planning area.

Non-Attainment Areas

Areas that are classified as non-attainment by the USEPA are required to prepare and implement a State Implementation Plan (SIP) that identifies and quantifies sources of emissions and presents a comprehensive strategy to control and reduce locally generated emissions. Attainment status by air basin and air district is provided in Table 3.2-2.

Air quality degradation and ambient air quality standard exceedances in the planning area have been episodic in nature. High PM_{10} concentrations that violated the National Ambient Air Quality Standards peaked in the early 1990s. In recent years, good monitoring data has led to reclassification requests to the USEPA for most of the region. Implementation of dust control rules and controls on a number of critical sources have led to reductions in PM_{10} concentrations. The number of violations of the NAAQS for ozone have declined, but violations have continued. Rules establishing controls for ozone precursor emissions have been implemented, but overwhelming transport of pollutants from the South Coast Air Basin and the San Joaquin Valley Air Basin continually impacts the desert.

Table 3.2-2. Attainment Status by Air Basin and Air District

Air Basin	Air Quality District	Pollutant	Planning Area Name	Federal Designation	State Designation
GBVAB	GBUAPCD	PM_{10} (federal)	Owens Valley	Severe Non-attainment	N/A
		PM_{10} (federal)	Coso Junction	Attainment	N/A
		PM_{10} (state)	GBVAB	N/A	Non-attainment
		Ozone (state)	Inyo County and Mono County	N/A	Non-attainment
		All others	GBVAB	Unclassified/ attainment	Unclassified/ Attainment

Table 3.2-2. Attainment Status by Air Basin and Air District

Air Basin	Air Quality District	Pollutant	Planning Area Name	Federal Designation	State Designation
MDAB	EKAPCD	PM_{10} (federal)	Indian Wells Valley	Attainment/ Maintenance	N/A
		PM_{10} (federal)	Kern River/Cummings Valley	Serious Non-attainment	N/A
		PM_{10} (state)	MDAB	N/A	Non-attainment
		Ozone (federal)	Eastern Kern County*	Non-attainment	N/A
		Ozone (state)	MDAB	N/A	Non-attainment
		All others	Eastern Kern County	Unclassified/ attainment	Unclassified/ Attainment
	MDAQMD	PM_{10} (federal)	Searles Valley	Moderate Non-attainment	N/A
		PM_{10} (federal)	Mojave Desert	Moderate Non-attainment	N/A
		Ozone (federal)	Mojave Desert modified	Non-attainment	N/A
		Ozone (state)	MDAB	N/A	Non-attainment
		$PM_{2.5}$ (state)	Mojave Desert modified	N/A	Non-attainment
		Hydrogen Sulfide (state)	Searles Valley	N/A	Non-attainment
		PM_{10} (state)	MDAB	N/A	Non-attainment
		All others	MDAQMD Wide	Unclassified/ attainment	Unclassified/ Attainment
	AVAQMD	Ozone (federal)	Mojave Desert modified	Non-attainment	N/A
		PM_{10} (state)	MDAB	N/A	Non-attainment
		Ozone (state)	MDAB	N/A	Non-attainment
		All Others	MDAB	Unclassified/ attainment	Attainment

Table 3.2-2. Attainment Status by Air Basin and Air District

Air Basin	Air Quality District	Pollutant	Planning Area Name	Federal Designation	State Designation
SSAB	SCAQMD	PM_{10} (federal)	SSAB	Moderate Non-attainment	N/A
		Ozone (federal)	SSAB	Non-attainment	N/A
		PM_{10} (state)	SSAB	N/A	Non-attainment
		Ozone (state)	SSAB	N/A	Non-attainment
		$PM_{2.5}$ (federal)	SSAB	Moderate Non-attainment	N/A
		$PM_{2.5}$ (state)	SSAB	N/A	Non-attainment
		NO_2 (state)	SSAB	N/A	Non-attainment
		All others	SSAB	Unclassified/ attainment	Attainment

N/A – The planning areas for the Federal and State standards are not directly comparable. Therefore, the attainment status for the Federal and State standards are listed in separate rows in this table.

Particulate Matter and the Planning Area

Much of the particulate matter that causes pollution in the area is locally generated and transported. Relatively coarse PM_{10} particles are considered respirable particulates because they are of sufficiently small size that they can be inhaled into the nose, throat and/or lungs. PM_{10} can be emitted directly or it can be formed many miles downwind from emission sources when various precursor pollutants interact in the atmosphere. Gaseous emissions of pollutants like NO_x, sulfur oxides (SO_x), VOCs, and ammonia, given the right meteorological conditions, can form PM in the form of nitrates (NO_3), sulfates (SO_4), and organic particles. These pollutants are known as secondary particulates, because they are not directly emitted, but are formed through complex chemical reactions in the atmosphere.

Fine $PM_{2.5}$ particles are the largest threat to health because they tend to deposit in the air sacks of the lungs. In addition, these finer particles often result from precursor emissions, many of which are toxic or carcinogenic and may not be locally generated. The USEPA has established new NAAQS standards for $PM_{2.5}$ emissions. These fine particles have been implicated as an increased health risk and consist of chemical compounds that mostly result from combustion processes. $PM_{2.5}$ is derived mainly from either the combustion of materials, or from precursor gases (SO_x, NO_x, and VOCs) through complex reactions in the atmosphere. $PM_{2.5}$ consists mostly of sulfates, nitrates, ammonium, elemental carbon, and a small portion of organic and inorganic compounds.

Human activities that contribute to the PM_{10} emissions include combustion sources such as stack emissions, diesel exhaust and smoke from prescribed fire and wild fire, fugitive dust sources such as construction and demolition activities, off highway vehicle (OHV) travel, unpaved public roads and parking lots, industrial activities, OHV open areas, large-scale concentrated livestock grazing

operations and military activities. The combustion sources tend to produce smaller particulates (less than 5 microns) while fugitive sources tend to produce larger particulates (larger than 5 microns).

With respect to the federal PM_{10} standard, the WEMO Planning area now includes areas that are designated as in non-attainment, attainment, and unclassified/attainment. The portions of the planning area in the MDAQMD and SCAQMD areas are designated as non-attainment, as is Owens Valley in the GBUAPCD area. Of these non-attainment areas, USEPA has classified three areas within the WEMO Planning area as formal PM_{10} Planning areas. The three current federal planning areas are: the Owens Valley PM_{10} Planning Area, the Trona PM_{10} Planning Area, and the San Bernardino County PM_{10} Area. The Owens Valley planning area is one of five serious federal non-attainment PM_{10} planning areas in the nation.

The original Searles Valley PM_{10} Planning Area abutted the Owens Valley PM_{10} Planning area on the north and included Rose Valley, Indian Wells Valley, and Searles Valley. The USEPA split the federal non-attainment area into three separate non-attainment areas based upon the county lines. These three new federal non-attainment areas were called the Coso Junction, the Indian Wells Valley, and the Trona PM_{10} non-attainment areas. Of these, Coso Junction in the GBUAPCD was redesignated as attainment/maintenance in 2010, and Indian Wells Valley in the EKAPCD was redesignated as attainment/maintenance in 2003.

Emission sources identified in the SIP include construction/demolition, public unpaved roads, paved roads, mobile sources, unplanned fires, public disturbed areas, fuel combustion (cogeneration boiler and stacks at Trona), fugitive dust from mining activities, primarily on Searles lakebed, industrial roads, agricultural fields, and military activities. In 1990 there were an estimated 3.98, 4.76 and 9.18 tons/day of PM_{10} emissions in the Coso Junction, Indian Wells Valley, and Trona non-attainment areas respectively.

Activities on BLM lands are estimated to contribute 8 percent of the total PM_{10} emissions in the Trona non-attainment area. The primary source of BLM emissions is OHV activity and unpaved road travel in the Spangler Hills Open Area and surrounding areas. The Trona PM_{10} SIP targets the BLM emissions for a 20 percent reduction. The East Kern APCD and Mojave Desert AQMD have developed rules to implement their respective SIP obligations. Current monitoring data has not indicated any recent exceedances of the NAAQS in any of these three non-attainment areas. As a result, documents have been prepared for these three areas requesting a reclassification from non-attainment to attainment/maintenance, and the Coso Junction and Indian Wells Valley areas were subsequently reclassified.

The USEPA classified the San Bernardino County desert area as a PM_{10} non-attainment area on January 20, 1994. The Mojave Desert AQMD prepared a "Particulate Matter (PM_{10}) Control Strategy Plan" and submitted it to the state for inclusion into the state SIP. The USEPA disapproved the plan and returned it to the Mojave Desert AQMD for revision. Emission sources identified in the plan included construction/demolition, city and county unpaved roads, travel and wind erosion, paved road entrainment, city and county disturbed areas, and industrial activities. Four BLM open areas (Stoddard Valley, Johnson Valley, Rasor, and El Mirage) are within the non-attainment area and the WEMO Planning area. The draft plan called for BLM to prepare a Dust Control Plan for activities within the core problem portion of the non-attainment area. At the present time there is no approved SIP for the non-attainment area to guide management actions there. Currently, new rules are being drafted to come into compliance with USEPA requirements.

These new rules will likely require BLM to prepare dust control plans for the entire federal non-attainment area.

The remainder of the planning area (AVAQMD, the area of EKAPCD outside of Coso Junction, and the area of GBUAPCD outside of Owens Valley and Indian Wells Valley) is designated as unclassified/attainment. The Antelope Valley Area has recorded levels above the national threshold, but has not been classified as non-attainment. The air quality management district has been working directly with USEPA to successfully reduce the PM_{10} concentration levels and avoid having the Antelope Valley Planning Area designated as a federal non-attainment area. Part of this effort is through the adoption and implementation of rules to control fugitive dust, which constituted a majority of the total PM_{10} emissions.

Overall, as shown in Figure 3.2-3, ambient PM_{10} values in the planning area have been steadily decreasing since 1986. This has been the direct result of federal PM_{10} planning efforts in the Owens and Searles Valley areas, as well as the reductions of local emissions from construction and demolition projects due to increased local regulation.

3.2.5 Air Quality Monitoring

The 2005 WEMO Final EIS included a finding of consistency with the federal Clean Air Act (CAA). The Court's Summary Judgment order vacated this consistency determination because the analysis did not include projections of future levels of OHV use, and because the analysis did not include evaluation of emissions from OHV open areas. In the Remedy Order, BLM was required to perform additional air quality monitoring associated with emissions from OHV open areas.

In response, BLM coordinated with the California Desert Air Working Group (CDAWG), which included the five air districts within the WEMO Planning area, to develop a strategy to comply with the Remedy Order. Each of the five air districts is required to submit an annual report describing their air quality monitoring program and its results to the EPA annually. In 2012, the EKAPCD, MDAQMD, and AVAPCD information was included in the California Air Resources Board (CARB) 2012 Annual Monitoring Network Report for Small Districts in California (CARB 2012c). The GBUAPCD developed an independent report titled 2012 Ambient Air Monitoring Network Plan (GBUAPCD 2012) and the SCAQMD developed the South Coast Air Quality Management District Annual Air Quality Monitoring Network Plan (SCAQMD 2012).

These reports document a network of 46 monitoring stations throughout the WEMO Planning area. The only OHV open area that is not directly monitored within this network in the planning area is Rasor OHV area, which receives relatively light use and contains a higher concentration of larger sand particles. Historically, BLM has coordinated with the air districts in the development of their monitoring networks and through review of air data and reports. For areas identified as non-attainment areas, BLM has participated in the preparation of required implementation plans to ensure that BLM activities, including OHV use, are specifically addressed in the plans and the district rules.

To demonstrate compliance with the Remedy Order, BLM asked the MDAQMD to work with the other air districts and compile the results from the 46 ambient air monitoring stations. The results of this study were reported to BLM in the West Mojave Plan Air Quality Evaluation Report dated April, 2103 (MDAQMD 2013).

The Air Quality Evaluation Report provided detailed information on the locations and operations of the 46 monitoring stations throughout the planning area. Monitoring data included VOCs, oxides of nitrogen (NO_x), carbon monoxide (CO), respirable particulate matter (PM_{10}), fine respirable particulate matter ($PM_{2.5}$), oxides of sulfur (SO_x), and hazardous and toxic compounds (HAPs and TACs). The emissions monitored at the stations include emissions from three categories of sources: stationary sources (such as industrial activity, power generation, and military bases), mobile sources (including on-road vehicles, off-road vehicles, airplanes, and trains), and area sources (small widespread sources such as solvents, fires, and consumer products).

Emissions from OHV use and grazing operations were separately inventoried as a subcategory of the mobile sources. Emissions from OHV Open Areas were indirectly inventoried as area sources, as an element within the subcategories of unpaved road dust and fugitive windblown dust. The monitoring locations include a mix of sites near population centers (neighborhood scale monitors) and in rural areas (regional scale monitors). The neighborhood scale monitors are intended to characterize conditions that may affect nearby populations and for tracking the progress towards attainment of the ambient air pollutant standards. The regional scale monitors evaluate emissions within broad geographic regions and track background levels of ambient air pollutants. The monitoring network meets all federal, state, and local air monitoring requirements, including monitoring impacts to ambient air quality resulting from OHVs and OHV Open Areas.

The total emissions inventory in the planning area, combined using data from each of the five air quality districts, is presented in Table 3.2-3. Figure 3.2-4 presents the relative contributions of the various sources to the emissions inventory.

Table 3.2-3. Emissions Inventory in WEMO Planning Area (Tons per Year)

Type	Category	VOCs	NOx	SO_x	PM_{10}	$PM_{2.5}$
Stationary	Fuel Combustion	0.90	24.02	2.31	5.20	4.02
Stationary	Waste Disposal	0.27	0.07	0.12	0.30	0.07
Stationary	Cleaning and Surface Coatings	6.62	0.00	0.00	0.40	0.38
Stationary	Petroleum Production and Marketing	5.99	0.02	0.00	0.00	0.00
Stationary	Industrial Processes	2.42	55.69	5.83	41.15	17.83
Area	Solvent Evaporation	13.67	0.00	0.00	0.00	0.00
Area	Miscellaneous Processes	5.78	2.43	0.13	221.03	31.84
Mobile	On-Road Motor Vehicles	28.45	135.88	0.22	6.27	5.16
Mobile	Other Mobile Sources	38.31	62.99	0.99	6.00	5.59
Totals from all Sources		**102.41**	**281.10**	**9.60**	**280.35**	**64.89**

Figure 3.2-4 shows that mobile sources (including OHVs) are the largest source of ozone precursor (VOC and NOx) emissions, but are a minor component of SO_x, PM_{10}, and $PM_{2.5}$ emissions. VOC emissions from OHVs are high relative to other sources because their engines do not have catalytic controls, and therefore release unburned fuel in their exhaust. As such, OHV emissions are a significant contributor to VOC emissions, which are a precursor to a regional pollutant (ozone).

The report concluded that OHV Open Areas are not a significant contributor to either total unpaved road dust or fugitive windblown dust subcategories, and are thus not a significant contributor to regional PM_{10} emissions. This is because the disturbed area in the OHV Open Areas

is small relative to the total mileage of maintained and unmaintained unpaved roads and tracks, as well as tens of millions of acres of land disturbed for other uses, much of which is from outside of the planning area.

3.2.6 Sensitive Receptors and Residences

For purposes of impact analysis among route network alternatives, BLM compared the proximity of motorized routes to sensitive receptors. Sensitive receptors were defined as schools and health facilities. The number of sensitive receptors within the WEMO Planning area is presented in Table 3.2-4.

Table 3.2-4. Sensitive Receptors in WEMO Planning Area

Type of Sensitive Receptor	Within ¼ miles of a Route	Within 1 mile of a Route
Public School	12	43
Private School	0	6
Colleges	1	4
Health Facilities	0	7

In the impact analysis in Chapter 4, BLM identified the mileage of motorized routes within various distances of these receptors. The distances evaluated were 0.25 and 1.0 miles from the receptors.

To estimate the impacts to residences, BLM used the "developed area" layer of the vegetation database as a surrogate for areas where residences exist. In the analysis in Chapter 4, mileages of routes within 300 feet of the developed areas were used as a conservative assessment of the potential for air quality impacts to residents.

3.2.7 Climate Change

Climate change is defined as any change in climate over time, whether due to natural variability or as a result of human activity (CCSP 2008). Climate change can interact with other environmental changes to affect biodiversity and the future condition of ecosystems. There is general scientific consensus that climate change is occurring and that human activity contributes to the change. Man-made emissions of greenhouse gases (GHGs) contribute to continued increases in global temperatures. Increases in global temperature cause a reduction in the polar ice caps and increases in sea level, which flood low lying areas of the world. Additionally, climate change shifts rainfall patterns that would cause significant impacts to agriculture and fresh water availability worldwide.

Climate change is defined as the long-term change in the statistical distribution of weather patterns over periods ranging from decades to millions of years (CDM 2011). It is well-documented and widely accepted that the Earth's climate has fluctuated and changed throughout history. Scientific evidence also acknowledges that world climate is currently changing as indicated by increases in global surface temperature, altered precipitation patterns, warming of the oceans, sea level rise, increases in storm intensity, changes in wind patterns, and changes in ocean pH (Bierbaum and others 2007; et al. 2007); Coastal Resources Center, University of Rhode Island and International Resources Group [CRC&IRG] 2009). This is significant because "climate is a dominant factor influencing the distributions, structures, functions, and services of ecosystems" (CCSP 2008).

Based on the results of 21 global climate models that address a scenario (referred to as A1B) in which multiple energy sources, including fossil fuels, continue to be consumed, the conservative forecast for western North America is a linear change in mean temperatures ranging from +2.1 °C to +5.7 °C (+3.8 °F to +10.4 °F) and a linear change in mean precipitation ranging -3 percent to +14 percent through the end of the century (Friggens and others 2012); et al. 2012). Under this scenario, it appears that such changes will be most favorable for the desert scrub vegetation types found in the Mojave, Sonoran, and Chihuahuan deserts, which are all projected to expand (Friggens et al. 2012). Predicting how species distributions and vegetation communities will change is difficult; and to date, very limited modeling to better understand the effect of this change on individual species, including birds, mammal, reptiles, invertebrates, and plants, has occurred. To address the uncertainties of how populations of species adapted to local conditions will respond to a changing climate, Barrows and Murphy-Mariscal (2012) identify the need for a local-scale approach to modeling that takes into consideration the topographic and ecological complexities of a specific management area or species range. And there is now strong indication that recent climatic changes have affected a broad range of organisms with diverse geographical distributions (Walther *et al.* 2002). For example, climate change and drought were not identified as threats to the desert tortoise in the 1994 Recovery Plan, but since that time it has become apparent that the combined effects of global climate change (*i.e.*, increased ambient temperatures and altered precipitation patterns) and drought may become significant factors in the long-term persistence of the species (U. S. Fish and Wildlife, 2011).

In California, maximum, average, and minimum air temperatures have increased over the past century, with the greatest increase seen in minimum temperatures (Anderson and others 2008). Precipitation on the other hand has been highly variable over this period with no statistically significant trend, and it is unknown how climate change could affect the amount, form, and timing of precipitation statewide. In southern California, temperatures are predicted to increase over time. These increases in temperature could result in extended periods of excessive heat and generally drier conditions (Cayan, in Southern California Association of Governments [SCAG] 2009). Several of the more recent climate simulations for southern California suggest that summer temperatures will increase more than those in winter, with the effects felt most significantly in the interior areas of Southern California (Cayan, in SCAG 2009). The combination of higher temperatures and potentially lower annual precipitation rates is likely to increase water demand in urban areas, which will in turn stress areas already affected by limited water supplies.

3.2.7.1 Greenhouse Gases

Gases that trap heat in the atmosphere are often referred to as Greenhouse Gases (GHGs), which are emitted into the atmosphere through natural processes and human activities. GHGs are so named because of their ability to prevent heat from the surface of the earth from escaping to space. There appears to be a close relationship between the concentration of GHGs in the atmosphere and global temperatures. Human-made emissions of GHGs are likely to contribute further to continued increases in global temperatures, with probable impacts including: increased drought, flooding, heat waves and sea rise (Intergovernmental Panel on Climate Change [IPCC] 2007). In addition, global warming can make air pollution worse because warmer temperatures accelerate the formation of ozone and other pollutants.

The principal greenhouse gases contributing to climate-change and resulting from human activity are listed below.

- Carbon dioxide (CO_2) enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions (e.g., manufacture of cement). CO_2 is also removed from the atmosphere (or "sequestered") and stored when it is absorbed by plants as part of the biological carbon cycle. This sequestration can be associated with desert plants and biological crusts; thus disturbance of these habitats may cause the release of sequestered CO_2.
- Methane (CH_4) is emitted during the combustion, production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- Nitrous oxide (N_2O) is emitted during agricultural and industrial activities, as well as from solid waste, and combustion of fossil fuels (in small amounts).
- Fluorinated Gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6), are synthetic, powerful GHGs that are emitted from a variety of industrial processes. GHG emissions from these sources are typically found in refrigerants, fire suppression equipment, and electric switching equipment, respectively. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons). These gases are typically emitted in smaller quantities, but are considered as potent GHGs due to very high global warming potentials (GWPs).

Emissions of CO_2 occur largely from combustion of fossil fuels. The major categories of fossil fuels combustion CO_2 sources can be broken into sectors for residential, commercial, industrial, transportation, and electricity generation. The transportation sector includes all motor gasoline and diesel fuel combustion, and the GHG emissions of this sector are not split into activities or uses (i.e., there is no separate estimate for the level of GHG emissions caused by gasoline or diesel fuel combustion-related to construction activities). Other GHG emissions such as CH_4 and N_2O are also tracked by state inventories but occur in much smaller quantities. According to the EPA, the global warming potential of methane is about 25 times that of CO_2 (http://www.epa.gov/ghgreporting/documents/pdf/2013/documents/2013-data-elements.pdf). When quantifying GHG emissions, the different global warming potentials of GHG pollutants are usually taken into account by normalizing their rates to an equivalent CO_2 emission rate (CO_2e).

Many GHGs have lifetimes of decades or even centuries in the atmosphere, so the problem cannot be eliminated quickly. Thus, the problems we are experiencing today do not accurately represent the full effects we may see years from now based on current levels of GHGs (CARB 2009). California and Nevada have demonstrated the willingness to address GHG emissions and global climate change through research, adaptation and inventory reduction.

California is the fifteenth largest emitter of GHGs on the planet, representing about two percent of the worldwide emissions (CARB 2008a). Statewide emissions of GHG are summarized in Table 3.2-5. In response, the California Legislature finds that "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment" (California Health and Safety Code, §. 38500, division 25.5, part 1).

Table 3.2-5. California Greenhouse Gas Emissions

Emission Inventory Category	Greenhouse Gas Emissions (million metric tons CO_2e)						
	1990	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Residential	29.7	28.3	29.3	28.1	28.5	28.6	28.4
Commercial	14.4	13.1	13.2	12.7	13.0	13.2	14.7
Industrial[1]	103.0	102.4	97.1	97.2	97.0	100.4	99.4
Transportation	150.7	178.0	181.7	184.3	184.1	183.8	175.0
In-State Electricity Generation	49.0	49.1	57.4	51.8	56.3	55.2	55.1
Agriculture & Forestry	16.9	28.7	29.0	29.2	30.1	28.5	28.2
Other	1.3	12.7	13.6	14.2	14.9	15.3	15.7
Subtotal (without Electricity Imports)	*365.0*	*412.3*	*421.3*	*417.5*	*424.0*	*425.0*	*416.5*
Electricity Imports	61.6	60.8	62.6	59.2	51.4	55.9	61.2
Gross Total	**433.3**	**473.1**	**483.9**	**476.7**	**475.3**	**480.9**	**477.7**
Forestry Sinks	-6.7	-4.3	-4.3	-4.2	-4.0	-4.1	-4.0
Net Total	**426.6**	**468.8**	**479.6**	**472.5**	**471.3**	**476.8**	**473.7**

Sources: CARB 2007, CARB 2010a
CO_2e = equivalent CO_2 emission rate
(1) Includes landfills

GHG emissions in the United States come mostly from energy production. Energy-related carbon dioxide emissions resulting from fossil fuel exploration and use account for approximately three-quarters of the human-generated GHG emissions in the United States, primarily in the form of carbon dioxide emissions from burning fossil fuels. More than half the energy-related emissions come from large stationary sources such as power plants; approximately a third comes from transportation; while industrial processes, agriculture, forestry, other land uses, and waste management make up a majority of the remainder of sources.

Global warming potential is a relative measure, compared to carbon dioxide, of a compound's residence time in the atmosphere and ability to warm the planet. Mass emissions of GHGs are converted into carbon dioxide equivalent (CO_2e) emissions for ease of comparison.

Several regional and local climate plans and GHG reduction initiatives have been under development under the California Air Resources Board's guidance. In addition to these programs, California is involved in the Western Climate Initiative (WCI), a multi-state and international effort to establish a cap and trade market to reduce GHG emissions in the Western United States. WCI adopted a goal of an aggregate reduction of 15 percent below 2005 GHG levels by 2020. It has voluntarily prepared a GHG inventory based on calendar year 2004, as well as a set of rules for Climate Change (Regulation XXVII), including the Southern California Climate Solutions Exchange (Rule 2701), and the Greenhouse Gas Reduction Program (Rule 2702).

3.2.7.2 Forecasts of Impacts of Climate Change in the Local Landscape and Ecology

Changes in flooding frequency and severity have been linked to climate change. Higher intensity storms with increases in rainfall and runoff are forecast under some modeled projections of climate

change in the Southwest. Flood risks are likely to become greater as winter precipitation increases under changing climate conditions.

Under the A1B scenario evaluated in Friggens and others (2012), the temperature changes are expected to be most favorable for the desert scrub vegetation types found in the Mojave, Sonoran, and Chihuahuan deserts, which are all projected to expand (Friggens and others 2012). Changes in precipitation pattern and quantity throughout the Southwest may also impact the potential water supply availability from the Colorado and Mojave Rivers and other surface sources. Concerns about climate uncertainty have resulted in the need to adapt existing flood management and water supply systems in response to changing conditions (Coachella Valley Regional Water Management Group 2010).

One of the forest management strategies, included in the California Water Plan Update 2009, addresses the need to better understand the hydrologic changes that could result from climate change and recommends the establishment of long-term monitoring through the installation of stream gages, precipitation stations, water-quality and sediment monitoring stations, and long-term monitoring wells.

3.3 Geology, Soils, and Water

3.3.1 Geology and Soils

Regional Geologic Overview

The WEMO Planning area is mainly in the Mojave Desert geomorphic province (Mojave Block) of California. The geomorphic provinces do not completely match the bioregional provinces that were used to identify the WEMO Planning area and adjacent planning area boundaries. The Planning area also encompasses a substantial portion of the Basin and Range province to the north and small portions of the Sierra Nevada province to the northwest and the Transverse Ranges to the southwest. The geomorphology of the province is dominated by broad basins filled with sediments eroded from adjacent highlands and mountains, burying the ancient topography. The region may once have been entirely within the Basin and Range province until the Garlock Fault became active in the early to mid-Tertiary Period to create a geographic and climatic boundary. Although Paleozoic- and early Mesozoic-age rocks are present, the desert itself is a Cenozoic-age feature, formed as early as the Oligocene, presumably from movements of the San Andreas and the Garlock faults. During the Pleistocene (Ice Ages), this region of California had a cooler average temperature and lower evaporation rate than at present. While never a wet climate, the Mojave Desert nonetheless once contained many small lakes, and the Mojave River had water flow throughout its length. The majority of the surface in the planning area is covered by Quaternary-age unconsolidated surficial deposits. These deposits consist primarily of alluvial, fluvial, lacustrine and aeolian sediment.

Mojave Desert province has distinct western and eastern portions. The "western Mojave" lies within the wedge where the San Andreas and Garlock faults meet, and is bounded on the east by the Mojave River and a line running northwest from Barstow, San Bernardino County, to Red Rock Canyon, Kern County. Uplifts along the two major fault systems include the El Paso Mountains along the northwest side of the Garlock fault, and the San Gabriel and San Bernardino Mountains to the southwest along the San Andreas fault. The western Mojave Desert consists of great expanses of gentle surface with isolated knobs, buttes, ridges, and locally hilly areas. The eastern Mojave consists of alluvial filled basins (downthrown blocks) between mountain ranges separated by normal faults, but includes thrust-fault emplacement hills and mountains. In the southern half, the mountain ranges have a general northwest trend, whereas in the northern half these features have no consistent orientation. For more detailed geology, the reader is referred to the Geologic Map of California, San Bernardino Sheet (Bortugno and Spittler 1986).

Basin and Range province is a geologic term referring to the structure of Mojave Desert valleys (basins) and mountains (ranges) that are aligned roughly north to south. The province extends from the Wasatch Mountains of Utah to the east side of the Sierra Nevada in California. In this region the earth's crust has been extended (stretched thinner) from east to west, and faults associated with this thinning and stretching generally border mountain ranges in this province. The planning area north of the El Paso Mountains and east of U.S. Highway 395 is part of the Basin and Range province. Basin and Range includes the Coso, Argus, and Slate mountains and their adjacent valleys. The Coso Mountains consist largely of igneous/volcanic rocks, including pumice, basalts, cinders and obsidian, and are tectonically active with frequent, very small earthquakes. The Argus and Slate Ranges are mostly igneous/granitic rocks, with some volcanic rocks and exposures of

limestone formations. Searles Valley is well-known for its deposits of sodium minerals that are the remnant of a Pleistocene lake that once formed the terminus of the Owens River.

Mountain ranges and valleys of the Transverse Range region trend eastward in a pattern essentially transverse to generally northwest-trending features of southern California. The lowlands of the San Bernardino and Los Angeles plains in the southern part of this region rise abruptly northward to the San Bernardino and San Gabriel mountains, respectively, two of the most rugged and highest ranges in southern California. The rock units of the Transverse Range region may be divided into two main groups: (a) crystalline basement complex composed of metamorphic and plutonic rocks; and (b) sedimentary and volcanic rocks. The metamorphic rocks of this complex include, from oldest to youngest: Precambrian gneiss and marble; Precambrian Pelona Schist; Paleozoic meta-sedimentary rocks containing mineralized gold; and marble/limestone; and Pre-Cenozoic rock (Dibblee 1970).

Highly diverse marine and non-marine sedimentary rocks, volcanic and intrusive igneous rocks range from Precambrian to Recent times. Geologic events involve plate collision, metamorphism, and faulting. This diversity of rock types, long history of igneous activity, and the complex structural and geomorphic development of the region have resulted in the formation of a wide variety of mineral assemblages and their concentration to form ore deposits that are present in the planning area.

Soil Functions and Characteristics

Ongoing soil forming processes are evident in desert soils. Several processes are involved in the formation of soils. These processes are the accumulation of organic matter, the formation of and translocation of silicate clay, the accumulation of silica and lime, weathering of parent material, and the formation of desert pavement.

Soils in the desert function to support the ecology of the local area, as well as global carbon balance. With respect to ecology, soil resources form the habitat within which vegetation grows, and in which wildlife finds cover. Vegetation in hot deserts often provides scant wildlife cover from predators and extreme temperatures. Many animal species use desert soils as their principal source of cover and habitat for reproduction and survival. Lizards, snakes, desert tortoises, burrowing owls, rodents, kit foxes, and badgers are some of the desert animals that dwell in soils during a large portion of their lives. With respect to carbon balance, soils not only support carbon sequestration in vegetation and biological soil crusts, but in inorganic form as well. Until recently, soil scientists had underestimated the amount of carbon sequestered in the desert because investigations of soil carbon limited their inquiry to the top one meter of soil and considered only organic carbon (Wang et al., 2010). Soil inorganic carbon, especially in the form of calcium carbonate ($CaCO_3$), results from mineral weathering. Mineral weathering is a major process transforming carbon from the atmosphere and from plants into inorganic carbon sequestered in mineral compounds such as carbonates. Desert soils are the third largest global pool of carbon (Emmerich 2003), most of it stored as inorganic carbon. Soil inorganic carbon tends to be more stable than soil organic carbon over time because inorganic carbon compounds are not available for microbial respiration. Accumulation of inorganic carbon as calcium carbonate in desert soils can create a soil layer known as caliche.

The characteristics of soils which support these functions include grain size and texture, mineral composition, level of compaction, fertility, vegetation cover, presence of biological soil crusts, and

water content. The soil resources of arid lands are important because soils promote microbial and invertebrate growth, and plant growth and nutrient cycling in desert ecosystems. Soil productivity can offset the constraints from lack of water in semi-arid and arid environments of the Mojave Desert. The ability of soil to hold water for long periods is critical to photosynthesis in plants that converts atmospheric carbon through plant water use to add or maintain sufficient aboveground vegetation and belowground root biomass. Plant biomass from naturally fertile soils nourishes terrestrial wildlife and livestock species and furnishes wildlife habitat. Soil degradation occurs when soils lose their capacity to hold moisture and soil nutrients in desert ecosystems. Productivity also enhances the ability of desert soils to store ("sequester") carbon in plants and organic carbon compounds originating from plants but partially decomposed by soil microbes (fungi, bacteria).

Fertility also depends on the availability of soil mineral macronutrients and key micronutrients in desert soils. Low amounts of phosphorus in the soil often limit growth of plants in desert soils, for example. Inputs of nutrients to desert soils come from deposition of minerals, sediments, and organic matter, either from the atmosphere or from water transport. Minerals are important because they bind especially to soil organic compounds for eventual uptake by plants when soil water is sufficient to dissolve the minerals attached to the compounds and transfer dissolved minerals to plant roots.

Desert soils that are fertilized at unnaturally high amounts, however, can create environmental problems. One example is the high deposition of nitrogen onto the surfaces of soils that stems from high amounts of atmospheric nitrogen, which is generated principally by vehicle traffic in the Los Angeles Basin and moving downwind to the West Mojave Desert. Added nitrogen increases the habitat suitability of desert soils for comparatively high-nitrogen consuming plants such as non-native invasive annual grasses. These plants now comprise as much as 90 percent of the annual plant biomass in some areas and subsequently lead to the loss of species-diverse native plant communities and to an unprecedented increase of fire-prone fine fuels in the desert.

A common and important characteristic of soils in the planning area is the presence of biological soil crusts, microorganisms (lichens, algae, cyanobacteria, microfungi), and non-vascular plants (mosses, lichens) that grow on or just below the soil surface. Soil physical and chemical characteristics, along with seasonal precipitation patterns, are largely determined by the dominant organisms comprising the crust. These crusts are primarily important as cover and in stabilization of soil surfaces. In rangelands, biological soil crusts function as living mulch by retaining soil moisture and discouraging annual weed growth. They also reduce wind and water erosion, fix atmospheric nitrogen, and contribute to soil organic matter (Eldridge and Greene, 1994 in USDI, 2001).

Altered soil properties can lead to a variety of cascading effects on other resources, including surface water flow rates and water quality, air quality, biological resources, and human health. Compaction can reduce soil moisture available to vegetation, increase rates of precipitation runoff, and increase erosion (Ouren and others 2007). Any activities, including motorized vehicle use or livestock grazing which may modify soil characteristics have the potential to impact resources, including the ecological and carbon sequestration functions that are supported by the soils. These impacts can occur if the characteristics of the soils are modified, even though the soils remain in place. Soil compaction can occur due to pressure exerted by animals, pedestrians, and/or vehicles. Areas frequently susceptible to soil compaction are motor vehicle routes, developed and undeveloped camping areas, sites for livestock watering, and mine operation sites. A far-reaching impact from vehicular travel on desert soils is soil compaction that results from the force of vehicle

wheels rolling over the soil surface. The degree of soil compaction from vehicular traffic depends in part on soil characteristics such as soil particle size, particle size distribution, organic matter content, soil moisture, and soil structure. Uniform coarse-grained soils tend to be less susceptible to compaction than fine-grained or poorly-graded soils or soils that consist of a diverse range of particle types. In the latter case, smaller particles are more easily wedged among larger particles when compaction force is applied. Compaction reduces the water infiltration and storage capacity of desert soils at the ground surface. Residence time is the average time that rainwater remains at the site where it falls. By infiltrating into a soil and becoming part of the groundwater, water resides on site longer. With compaction, less water infiltrates and more water flows offsite, thus shortening the average amount of time that water remains near where it strikes the ground. A longer residence time for water benefits soil organisms and vegetation at a site. With a shorter residence time for water, the soil has less water available for seed germination and plant growth.

Impacts to the ecological and carbon sequestration functions of soils can also occur if the soils are removed from their location through mechanical displacement, water erosion, or wind erosion. Reduced infiltration leads to increased overland water flow volume during infrequent but often intense desert rainstorms. Added surface water flow during and after a storm more easily overpowers the forces of cohesion and friction holding surface soil particles together. More soil particles downslope of compacted soils are eroded and transported overland as a result. The sediment load increases in the water flow cumulatively downslope and downstream, with potential adverse impacts to water quality. Overland water flow moves to washes and streams as compacted areas upslope shed a greater amount of runoff water than they would if left undisturbed. More water volume also accelerates gully erosion in rills and creeks at "knick" points in the landscape where the slope suddenly increases. The added sediment being transported may cause water quality to decline. More runoff in the water system during rainfall lowers the threshold amount of precipitation needed for flooding to start. At a watershed scale, one cumulative impact of soil compaction from widespread vehicular traffic and the resulting shortened residence time is that flooding becomes more frequent.

Wind erosion of soils is a major issue in the planning area. Most desert soils are much more susceptible to wind erosion after disturbance than in an undisturbed condition. Wind erosion occurs whenever bare, loose, dry soil is exposed to wind of sufficient speed to cause soil movement. This process is accelerated when stabilizing vegetation or crusts have been removed. During a dust storm, the bulk of eroding material from soils moves only a foot or two above the soil surface where it is subject to downwind transport. Two basic processes are involved in wind erosion: detachment and transport. Detachment is the initiation of soil movement and occurs when wind force or the impact of moving particles is strong enough to dislodge stationary soil particles. After detachment, soil particles are subject to transport by wind through the air or along the soil surface until eventually deposited when wind velocity decreases. Wind speeds as low as 21 to 24 km per hour above the soil surface can launch medium-sized particles in soils prone to wind erosion. Medium-sized particles become detached and enter the wind stream momentarily, but then fall back to the ground by force of gravity. Return from saltation causes them to impact other particles of differing sizes and set them into motion. Fifty to 80 percent of total soil movement may result from these particulate collisions. Wind erosion rates for soils may increase as soil properties (e.g., soil bulk density) or vegetative cover change. Erosion potential is magnified when percent slope (steepness) of a site is higher or when slopes are longer. In the planning area, approximately 2.3 million acres of the overall 9.4 million acres have slopes greater than ten percent (Figure 3.3-1).

Erosion by wind has several potential impacts. First, like water erosion, the process removes material that is necessary to support vegetation. Wind erosion is also a major source of PM_{10} air emissions in the region, affecting both local and regional air quality. Wind erosion can also cause dust deposition on vegetation, affecting its growth and availability as forage for wildlife.

In addition to removal of soil from its natural location, water- and wind eroded-soil can have adverse impacts to other resources, including air quality, water quality, and human and ecological receptors.

One disease of potential health concern in California warm deserts is Valley Fever, known medically as coccidioidomycosis, a disease with initially flu-like symptoms caused by inhalation of spores of the fungi *Coccidioides immitis* and *C. posadasii*, both originating in soils. These fungi grow and reproduce in the upper 5 to 20 centimeters of soils. Mature fungal spores can be released into the air during surface disturbing activities. Implementing dust control measures can reduce the risk of infection.

The source of concern for OHV riders in the Californian warm deserts is that the Mojave Desert lies midway between the two focal areas of the disease: the San Joaquin Valley in California and the eastern Sonoran Desert in Arizona. Because OHV riders are mobile travelers, they may visit OHV recreation sites in both those focal areas, as well as OHV sites in the Californian warm deserts. The only way to contract the disease is by inhalation of dust containing fungus spores. The disease does not spread by contagion from person to person.

About ten percent of people exposed to the fungal spores develop severe symptoms of the disease and one percent of people experience the disease spreading to other organs of the body. Motorized vehicular recreation may disturb soils that have naturally high concentrations of the fungal species that cause valley fever and thus increase personal exposure to spores.

A recent study of the Tucson, AZ, area has found that nine percent of soils samples contained valley fever spores. Studies, involving soil scientists, to examine the spectrum of soils in California deserts that are likeliest to host fungus spores are not yet available. However, the NRCS is developing a predictive algorithm to identify soils most likely to present health risks to people. In the San Joaquin Valley, the valley fever fungus appears to be particularly present in saline or alkaline soils.

Public health impacts could also occur from exposure to toxic pollutants present in wind-eroded soils. Most toxic air pollutants have no known safe levels and some may accumulate in the human body from repeated exposures. Some toxic minerals have naturally high concentrations in desert soils or in areas where waste from abandoned mining operations remains on the ground surface. Scientists from the University of Nevada and from the USGS are currently studying the extent and concentrations of dust containing naturally-occurring arsenic, asbestos-like minerals, and perchlorate minerals in the Mojave Desert to determine the risks to people's health.

Two specific mineral types are potentially toxic particulates in desert dusts where OHV recreation takes place: arsenic-containing minerals and minerals that have the pointed, fibrous crystal shape of asbestos. Scientists working in the Mojave Desert in California have found several areas where concentrations of naturally occurring arsenic are high. Owens Lake is, for example, one arsenic hotspot. Areas with motorized vehicular trails passing through abandoned gold and silver mine sites often have an environmental legacy of exposed mine wastes containing elevated levels of toxic metals and metalloids including arsenic. Erionite, an asbestiform mineral, is known to cause

asbestosis and mesothelioma, a kind of lung cancer, in communities in Turkey. At this time, the US EPA does not list erionite as a source of asbestos-related diseases in people. Within the West Mojave planning area, erionite is known from the Hector Mine and vicinity on the south side of the Cady Mountains in San Bernardino County. It usually is found in weathered rock called tuff consisting of volcanic ash. Exposure to erionite fibers comes from natural sources, not industrial sources as is the case with most asbestos exposures. No information about the health risk or exposure to people at erionite sites in the West Mojave Desert is presently available.

Available Soil Survey Information for the Planning Area

Many different kinds of soils and soil map units are found across the planning area. Soil surveys divide soils into soil map units that represent a single dominant or several co-dominant soil series, soil associations, or soil complexes that contain consistent patterns of co-occurring soils in similar topographic settings of the natural landscape. The soils in any one map unit may differ slightly, within limits of variability established in the soil map unit description, from place to place in slope, depth, drainage, and other soil properties. The general map units in the soil surveys have been grouped for broad interpretive purposes.

The San Bernardino County Mojave River Area is comprised of three groups:

- Soils of the Mojave Desert on floodplains, alluvial fans, terraces, and in basins are dominantly in low positions in arid areas and are comprised of seven map units. Slopes are nearly level to strongly sloping. Elevation ranges from about 1,700 feet to about 4,000 feet. Soils are very deep and shallow and are moderately to somewhat excessively drained. The surface layer is sand, loamy sand, loamy fine sand, sandy loam, loam, and clay, and often coarse. Soils are used mainly for irrigated crops, homesite development, wildlife habitat, and livestock grazing. This soils description is predominate in most grazing allotments outside mountainous land forms.

- Soils of the Mojave Desert on old terraces that have a desert pavement and on alluvial fans, foothills, and mountains are dominantly on scattered rock desert uplands on adjacent high terraces in the central and northern parts of the survey area. Elevation ranges from about 1,800 to 4,500 feet. The four mapping units in this group range in depth from very shallow, shallow, moderately deep to very deep. Soils are well drained with the surface layer consisting of gravelly sand, very gravelly sand, cobbly sandy loam, gravelly sandy loam, sandy loam, and loam. Soils are used for wildlife habitat, grazing, and a source of gravel. These are common soils on most grazing allotments but are not the predominant soil associations.

- Soils of the San Gabriel and San Bernardino Mountains on mountains, foothills, alluvial fans, and terraces are gently sloping to steep and range in elevation from 3,400 to 6,200 feet. The four mapping units in this group are moderately deep and very deep and are well drained to somewhat excessively drained. The surface layer is sandy loam or loamy fine sand. Soils are used for wildlife habitat, grazing, home site development, irrigated crops and pasturelands. This is the predominant soil for mountains allotments like Round Mountain and portions of the Rattlesnake Canyon Allotment.

The Southeastern Part of Kern County Soil Survey is comprised of two groups within the WEMO Planning area:

- Soils of the Mojave Desert occupy several different landscapes that range from low basins to high mountain ridges. Seven mapping units are incorporated into this group. Soils are nearly level to very steep, ranging from 2,000 to 4,200 feet elevation and are shallow, deep, or very deep, and well to excessively drained. Surface layers range from sand to clay loam. Soils are used for rangeland, recreation, or wildlife habitat. Where water is available, a few of the soils are used for cropland or home sites. Soil limitations include a high susceptibility to soil blowing of the sand surface layers and excessive erosion hazard due to slopes with inadequate plant cover.
- Soils on the Eastern Foot Slopes of the Sierra Nevada and Tehachapi Mountains are dominantly strongly to very steep with some soils in mountain valleys that are nearly level. Elevation ranges from 2,000 to 8,000 feet. Soils are shallow to very deep and well drained to somewhat excessively drained. Surface layers are gravelly sandy loam, gravelly loam, or sandy loam. The four mapping units in this group are used for woodland, rangeland, recreation, and wildlife habitat. Those soils in the more level mountain valleys are used for irrigated cropland.

Mineral Resources

Known and undiscovered locatable metallic mineral deposits occurring and expected to occur include gold, silver, base metals (copper, lead, and zinc), tungsten and iron. Zones of moderate and high potential for these metals are scattered throughout the planning area, with the exception of the alluvial filled valleys to the southwest where exposures are poor.

The Coso Area and Rand Area within the Red Mountain Wilderness have high potential for leasable geothermal steam resources; these resources have been and are likely to continue to be developed in the Coso Area. The planning area is deemed to have low potential for the occurrence of oil and gas based on a lack of evidence for marine source beds. Searles Lake, Boron, and Koehn Lake contain leasable sodium minerals. In addition, Searles Lake is known valuable for potassium minerals. Dale Lake is prospectively valuable for sodium and, like Koehn Lake, is a past producer.

Saleable minerals consist mostly of construction materials such as crushed and dimension stone, sand, and gravel, in addition to clay used for pond sealant. These deposits are known to occur in many locations throughout the West Mojave. For example, veneer stone is produced from private and public lands at Rand Mountain in Kern County and landscaping rock is produced from private and public lands near Barstow in San Bernardino County. Resources for the schist flagstone at Rand Mountain exist over an area of 640 acres (2.6 square kilometers) (Leszcykowski and others 1993). The estimated wholesale value of the stone produced from public lands is $1.2 million per year ($80 per ton x 15,000 tons) for the Rand schist, and $1.5 million/year for decorative stone near Barstow.

High quality sand and gravel deposits, suitable as aggregate for Portland cement concrete or asphalt concrete, are surprisingly few in number and becoming more difficult to develop because of zoning and environmental restrictions. Many of the sand and gravel potential areas are actually borrow deposits, suitable for fill, road repair work or subbase. By economic necessity, these are located near roads and highways. The average cost of a ton of aggregate doubles if it is hauled 35 miles (Beeby and others 1999).

Common clays occur in the playas and Tertiary-age sedimentary rocks. Whether these deposits have potential for development depends on the proximity to markets and conflicts with other resources. The El Paso Mountains are particularly favorable for the occurrence of pumice and pumicite.

Strategic and Critical Minerals are given special access consideration. These are materials that (1) would be needed to supply the military, industrial, and essential civilian needs of the United States during a national defense emergency, and (2) are not found or produced in the United States in sufficient quantities to meet such needs. A Strategic and Critical Materials Report to Congress is submitted annually by the Department of Defense. The report details the operations of the National Defense Stockpile and includes tables of the subject metals, minerals and materials. Among the 33 items are manganese ore, tungsten ore, lead, silver and zinc, which occur in the WEMO Planning area.

As an example, three zones in the Cady Mountains have high potential for the occurrence of manganese resources, and several hundred tons of ore were produced during the first and second world wars (Wright and others 1953). Manganese is used for hardening steel and the United States has an import reliance of 100 percent, with most coming from Gabon, Brazil, and Australia. Silver is often produced as a byproduct from gold mining. Gold is being mined at Randsburg and has been recently mined in the Mojave gold mining district.

Other unique minerals that are not found on the Strategic and Critical Minerals list have high potential in the planning area. Yttrium minerals may be found at the edge of the Pinto Mountains in Riverside County. The United States imports 100 percent of its yttrium, with most coming from China. There are no satisfactory substitutes for yttrium regarding its use in electronics, lasers and phosphors in color television and computer monitors (Hedrick 2002). Celestite (an ore of strontium) has been on the stockpile inventory in years past, and by far the largest deposits of strontium minerals in California occur in the foothills of the Cady Mountains (Ver Planck 1957). Strontium is used for ceramics, ceramic magnets, and glass, particularly television plate glass because of its ability to block X-rays. It also produces the red flame in pyrotechnics, including ammunition tracers and flares. The United States import reliance on strontium is 100 percent.

3.3.2 Water Resources

The WEMO Planning area is one of the most arid areas in the nation; the potential annual water loss through evapotranspiration exceeds the annual water gain from precipitation even at higher elevations. On the valley floors, evaporation exceeds precipitation by at least 25:1.

Prominent mountain ranges have an important influence on moisture distribution within the planning area. As moist, unstable air masses from the Pacific Ocean rise up the windward slopes of the Southern Sierra, San Gabriel and San Bernardino Mountains, the air is cooled and water vapor condenses and falls as rain, snow, or ice. When these air masses descend the leeward slopes, they become warmer and more stable and thus retain most of the remaining moisture. Consequently, precipitation amounts are much greater on the windward slopes of the mountain ranges, whereas arid conditions prevail leeward of the mountains. This is commonly known as the rain shadow effect. All of the planning area, except the Kelso Creek area, is on the leeward side of these major mountain areas.

Because of the arid nature of the planning area, water is the single most important resource. The presence or absence of a reliable supply of good quality water has determined the pattern of

agricultural, urban, and industrial development and will continue to do so. Groundwater withdrawn by wells furnishes nearly all of the developed water in the WEMO Planning area. Many of the State or federally listed or BLM sensitive species, discussed elsewhere in this document, are dependent upon the presence of groundwater either directly or indirectly for their habitat.

Water Quality Management

Water resources include surface water (including rivers, lakes, streams, springs, wetlands, and vernal pools) and groundwater. Management of water resources includes addressing both water availability and quality. Besides BLM, other agencies involved in management and regulation of water resources in the WEMO Planning area include the EPA, U.S. Army Corps of Engineers (USACE), State Water Resources Control Board (SWRCB), California Department of Fish and Wildlife (CDFW), and pertinent Regional Water Quality Control Boards (RWQCB). Regulations applicable to water resources include the Clean Water Act (CWA), Safe Drinking Water Act (SDWA), Resource Conservation and Recovery Act (RCRA), and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The EPA has granted primacy to the State of California to implement portions of the CWA and SDWA.

The EPA and USACE recently issued draft guidance for determining whether a waterway, water body, or wetland is protected by Sections 404 and 401 of the CWA. The guidance defines "Waters of the US" to include traditional navigable waters, interstate waters, tributaries, adjacent wetlands, and territorial seas. The final guidance reaffirms protection for wetlands that filter pollution and protect communities from flooding, and focuses on protecting smaller waters, including intermittent streams.

California state laws and regulations pertinent to water quality in the WEMO Planning area include the Porter-Cologne Water Quality Control Act, the California Water Code, the California Fish and Wildlife Code, and the California Health and Safety Code. The Porter-Cologne Water Quality Control Act assigns responsibility for water rights and water quality protection to the SWRCB, which in turn directs the RWQCBs to develop and enforce water quality standards. The RWQCBs control and protect water resources by designating uses and establishing water quality objectives. Non-point source pollution is managed through the implementation of measures that reduce, prevent, or eliminate pollutant entry into waters contained in their respective Water Quality Control Plan(s). California's Management Measures for polluted runoff constitute the State's best management practices (BMPs) for controlling non-point source pollution. Fish and Wildlife Code Section 1602 protects the natural flow, bed, channel, and bank of any river, stream, or lake designated by the CDFW in which there is, at any time, any existing fish or wildlife resources, or benefit for the resources. Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state, and requires any person, state, or local governmental agency, or public utility to notify the CDFW before beginning any activity that will:

1. Substantially divert or obstruct the natural flow of any river, stream or lake;
2. Substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake; or
3. Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

Preliminary jurisdictional evaluations for "Waters of the State" would be conducted by the project proponent. A final determination of the effects on any Waters of the State is made by CDFW. If

CDFW determines that an action would impact Waters of the State then a Streambed Alteration Agreement would be required, thus maintaining compliance with Section 1602. A Streambed Alteration Agreement is required in the event that the CDFW determines the activity could substantially adversely affect an existing fish and wildlife resource.

BLM cooperates with the SWRCB through a 1993 MOU for Planning and Coordination of Non-point Source Water Quality Policies and Activities, which clarifies each agency's responsibilities related to non-point source water quality issues and activities. The BLM has the authority to implement BMPs, management measures, and non-point source measures to protect, maintain, and improve water quality through this agreement. A Water Quality Management Plan that supports the state's Non-point Source Management Program is currently under development by the BLM California State Office. Currently, BLM manages surface water and groundwater quality to meet state and Federal objectives through the implementation of BMPs, minimizing surface disturbance to wetland and riparian areas, controlling non-point pollutant runoff (sediment), and limiting or restricting development around water sources.

Federal policy defines wetlands as areas that are inundated or saturated by surface water or groundwater at a frequency or duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. BLM Manual 1737, Riparian–Wetland Area Management, includes in this definition marshes, shallow swamps, lakeshores, bogs, muskegs, wet meadows, estuaries, and riparian areas (seeps and springs). The manual defines riparian areas as a form of wetland transition between permanently saturated areas and upland areas. BLM's Riparian-Wetland Initiative for the 1990s established national goals and objectives for managing riparian and wetland resources on public lands. The overall objective was to restore riparian and wetland areas so that 75 percent or more were determined to be in Proper Functioning Condition (PFC). Proper Functioning Condition is a qualitative method for assessing the condition of riparian-wetland areas. A PFC assessment refers to a consistent approach for considering hydrology, vegetation, and erosion/deposition (soils) attributes and processes. Conditions of these areas are evaluated by BLM using the Standards for Rangeland Health (see 43 CFR 4180.2) and Proper Functioning Condition consistent with BLM's Riparian Area Management (see BLM Technical References 1737-15 and 16).

3.3.2.1 Groundwater

The majority of groundwater resources in the planning area are associated with the floodplain aquifer along the Mojave River. Precipitation occurring at the headwaters of the Mojave River near Cajon Pass, as well as further south at San Gorgonio Pass, generates the surface water flow in the Mojave River. As it flows more than 150 kilometers (km) east to Afton Canyon, this surface water infiltrates, recharging groundwater in the hydraulically connected basins along the way (Izbicki and others 2007).

Throughout the rest of the planning area, groundwater is also found in unconsolidated alluvial fan deposits, although locally floodplain and lacustrine (lake) beach deposits may yield water to wells. The valleys and basins are generally internally drained, with water from precipitation within the basin recharging the alluvial fan deposits, and then ultimately discharging to the land surface and evaporating within the basin. Groundwater is generally under unconfined, or water table, conditions at the margins of the basins, but as the unconsolidated deposits become finer grained toward the centers of the basins, the water becomes confined.

Dating of the water in the Mojave River floodplain aquifer using tritium and carbon-14 methods indicates that the water is relatively recent. In contrast, groundwater in the regional aquifers in the surrounding mountain and canyons is more than 20,000 years old (Izbicki and Michel 2004), suggesting much lower recharge rates.

Although there are vast quantities of water within the groundwater basins, some of the water is of poor quality. The mineral quality of the groundwater within the WEMO Planning area varies greatly. The geologic setting of the basins directly affects the degree of groundwater mineralization. In general, basins near the source of recharge are less mineralized than those that are more distant.

3.3.2.2 Surface Water

Surface water is very scarce in the WEMO Planning area. Streams that originate high in the surrounding mountains to the west and south may have perennial flow in the higher altitudes; at the lower altitudes and throughout the planning area virtually no water exists in streambeds or riverbeds, except locally after infrequent, heavy cloudbursts. The playas may be covered by water from runoff for as long as two months a year. There are many locally important creeks, springs, and seeps, most of which are associated with the mountain areas.

Very short flow paths generally characterize small local flow systems, usually no more than a few miles in length. Springs connected to these systems are usually located in or near the mountains and have highly variable annual ranges in discharge that respond to the precipitation that year or a few years previous. Discharge waters have small concentrations of dissolved sodium plus potassium and chloride plus sulfate, large concentrations of tritium, and water temperatures that commonly approach average air temperatures. These characteristics imply that the groundwater that feeds the springs is relatively recent, being recharged within a span of less than 70 years.

In contrast, large local flow systems are characterized by inter-basin flow or flow confined to one basin with longer flow paths. Springs connected to these systems have moderate concentrations of the major salts, no significant concentrations of tritium and water temperatures from 50 to 60 degrees Fahrenheit, suggesting a much longer residence time in the aquifer.

Surface water was and is the major transport agent of the rock material from the mountains to the alluvial fans to the valleys. The intense short duration storms result in rapid floodwaters that have enough energy to transport rock material both in the water column and along the beds of the arroyos. Longer duration storms with less intensity still have the energy to transport finer sediment materials. All ephemeral streams in the planning area have naturally high sediment concentrations. Flows from groundwater sources have low sediment concentrations unless runoff water is dominating the flow. Playa water usually has a high concentration of very fine sediment mixed into the column by wind action and varying salt concentrations that depend on the geology of the area.

Mojave River

The most prominent surface water body in the WEMO Planning area is the Mojave River. The Mojave River originates near the southern boundary of the planning area. Major watersheds in the San Bernardino and San Gabriel Mountains contribute to the stream flow in the area. Sheep Creek originates in the San Gabriel Mountains. The West Fork of the Mojave River and Deep Creek originate in the San Bernardino Mountains and are the headwaters of the Mojave River.

The Mojave River flows along the eastern edge of the Cajon Fan. The Cajon Fan is at the southern edge of the Mojave Desert, in the southwestern part of the planning area. It is a broad surface of coalescing alluvial fans and terraces. The Cajon Fan formed from sediment eroded from the San Gabriel and San Bernardino Mountains. The fan extends from the base of the mountains for 10 to 15 miles to the Mojave River east of Hesperia to Adelanto and Mirage Lake. The center part of the upper edge of the Cajon Fan no longer joins the mountains. Tectonic activity in the surrounding area and subsequent erosion has truncated the upper edge to form the Inface Bluffs. Broad washes of the desert, such as the Oro Grande Wash, at one time drained large watersheds and are also truncated at the Inface Bluffs.

The floodplain of the Mojave River is 0.5 to 1 mile wide along most of the river. The soils on the floodplain are nearly level. In some places, such as at Upper Narrows where the river cuts through hard rock, there is no floodplain. East of Barstow, the floodplain and river terraces form the broad Mojave Valley.

The Mojave River has only three major tributaries within the desert – the Fremont Wash, Buckthorn Canyon, and Oro Grande Wash. These tributaries flow only after intense storms.

The water-bearing alluvial deposits of the Mojave River are a major source of groundwater in the planning area. Hard rock formations along the river divide the coarse river deposits into numerous subsurface basins. Water from the river recharges these basins.

The above ground flow of the Mojave River is intermittent in most places. Along most of its course, water flows above ground only after storms. Perennial flows occur near Victorville, in the vicinity of Camp Cady, and in Afton Canyon. In these places hard rock barriers force groundwater to the surface. Other basins in the area from which considerable groundwater is removed are in the area of Lucerne Valley, El Mirage, and Harper Lake.

The amount of water in the Mojave River varies greatly from year to year. As measured at the Forks, it has been more than 300,000 acre-feet one year and less than 10,000 acre-feet another.

The Mojave Water Agency was formed by an act of the State legislature in 1960 to find ways to supplement the natural water supply. The agency has contracts with the State of California that entitle the agency to purchase as much as 50,800 acre-feet of water per year from the California Water Project.

Surface Water Quality

Surface water quality impacts associated with the transportation management system can occur in two primary ways:

- Releases of petroleum fuels from motorized vehicles; and
- Increased sedimentation and erosion due to soil disturbance.

Any use of motorized vehicles on the transportation network can potentially lead to releases of fuels used to power the vehicles. These releases can potentially occur at any location on the network due to vehicle accidents. However, any such releases are expected to be small in volume. Also, given the scarcity of surface water within the planning area, the potential for these releases to enter surface water bodies or otherwise affect sensitive receptors is low. The only exception may associated with auxiliary fuel tanks used at organized events or remote locations. Some motorized vehicle users may carry additional fuel volume in separate tanks in order to re-fuel their vehicles

without having to return to developed areas. In such cases, the potential volume of fuel that could be released would be higher, up to 100 or more gallons. The potential for releases from auxiliary fuel tanks to impact sensitive resources would be directly related to the proximity of the release to those resources.

In the impact analysis in Chapter 4, routes identified as having potential for water quality impacts due to erosion and sedimentation are those which are parallel to, or located within, desert washes. The analysis in Chapter 4 identifies the mileage of routes associated with washes for each of the four alternatives.

Riparian Areas and Springs

Aquatic wetland and riparian habitat occurs within the WEMO Planning area. The primary locations of the riparian areas are along the Mojave River; however, riparian areas occur in other dispersed locations throughout the planning area. Creeks and springs primarily occur in higher elevation mountainous areas. Most creeks and some larger springs and spring complexes in the region support an area of riparian vegetation near the water source and in a linear zone leading downstream from the water source. The extent of these areas is usually limited, as evaporation and infiltration of the water removes it from the surface.

In the Remedy Order associated with the 2005 WEMO Final EIS, BLM was required to perform new PFC Assessments for all springs and seeps in the WEMO Planning area. As of August 2014, BLM has completed a total of 100 PFC assessments in the planning area. Table 3.3-1 lists springs and seeps that were assessed in 2012 through 2014. Additional assessments are continuing:

Table 3.3-1. WEMO Planning Area Proper Functioning Condition Assessments in 2012 through 2014

Sub-Region	Location	Finding
Afton Canyon	Afton Canyon	Functioning At Risk: Channelization
Black Mountain	Opal Spring	Non-Functional. Needs further development to enhance sustainability.
Cronese Lake	Jack Spring	Proper Functioning Condition
Darwin*	Black Spring	Non-Functional
El Paso Mountains	Coffee Can Spring	Proper Functioning Condition
El Paso Mountains	Bob Spring	Functioning At Risk
El Paso Mountains	Shelley Spring	Functioning At Risk
El Paso Mountains	La Moureaux Springs	Proper Functioning Condition
El Paso Mountains	Midway Spring	Proper Functioning Condition
El Paso Mountains	Unnamed	Proper Functioning Condition
El Paso Mountains*	Louise Spring	Proper Functioning Condition
El Paso Mountains*	Sheep Spring 2	Proper Functioning Condition
El Paso Mountains*	Sheep Spring	Proper Functioning Condition

Table 3.3-1. WEMO Planning Area Proper Functioning Condition Assessments in 2012 through 2014

Sub-Region	Location	Finding
El Paso Mountains	Upper Goler Canyon Holland Springs	Proper Functioning Condition
El Paso Mountains	Holland Spring West	Non-Functional
El Paso Mountains	Holland Spring South	Non-Functional
El Paso Mountains*	Petroglyph Spring	Functioning At Risk
Jawbone*	Hoffman Spring	Functioning At Risk
Jawbone*	Cabin Creek	Proper Functioning Condition
Jawbone*	Cortez Creek	Proper Functioning Condition
Jawbone*	Sage Canyon Creek	Functioning At Risk
Jawbone*	Nudist Spring	Proper Functioning Condition
Jawbone*	Boulder Canyon Creek	Proper Functioning Condition
Jawbone*	Sage Canyon Spring	Proper Functioning Condition
Jawbone*	Nicoll Spring	Proper Functioning Condition
Jawbone*	Nicoll Spring North	Functioning At Risk
Jawbone*	Willow Spring	Proper Functioning Condition
Jawbone*	Burning Moscow Spring	Functioning At Risk
Jawbone	Rocky Point (Lower Kelso Creek)	Proper Functioning Condition
Jawbone*	Tanager Spring	Functioning At Risk
Jawbone*	Dove Spring Wash	Non-Functional
Jawbone*	Upper Jawbone Canyon	Proper Functioning Condition
Jawbone*	Kelso Creek	Functioning At Risk
Jawbone*	Lower Dove Wash	Functioning At Risk
Jawbone*	Alphie Canyon	Non-Functional
Jawbone*	Rock Spring	Proper Functioning Condition
Jawbone*	Unnamed Near Burning Moscow Spring	Proper Functioning Condition
Jawbone*	Lower Butterbredt Canyon	Proper Functioning Condition
Jawbone*	Mohawk Buddy Mine Spring (Butterbredt Canyon)	Functioning At Risk
Jawbone*	Butterbredt Spring	Proper Functioning Condition
Jawbone*	Upper Shoemacher Spring	Functioning At Risk
Jawbone*	Williams Spring	Functioning At Risk
Jawbone*	Unnamed Southwest of Cowboy Spring	Proper Functioning Condition
Jawbone*	Hoffman Well	Non-Functional

Table 3.3-1. WEMO Planning Area Proper Functioning Condition Assessments in 2012 through 2014

Sub-Region	Location	Finding
Juniper Flats*	Furnace Spring	Non-Functional: Stop ongoing disturbance
Juniper Flats*	Stone Spring	Proper Functioning Condition
Juniper Flats*	TV Creek	Proper Functioning Condition
Juniper Flats*	Arrastre Creek (VP Mine Reach)	Proper Functioning Condition
Juniper Flats*	Arrastre Creek (Tahiti Falls Reach)	Functioning At Fisk: Rip-rap needed
Juniper Flats*	Cottonwood Creek	Proper Functioning Condition
Juniper Flats*	Round Mountain Spring	Functioning At Risk: Developed
Juniper Flats*	Greenwalt #1	Functioning At Risk: Water developed
Juniper Flats	White Knob Milepost 61 West Spring	Proper Functioning Condition
Juniper Flats	BLM Silver Creek Spring	Functioning At Risk
Juniper Flats	White Knob Milepost 61 East Seep	Functioning At Risk
Juniper Flats	White Knob Milepost 63 Southwest Seep	Functioning At Risk
Juniper Flats	White Knob Milepost 63 Southeast Seep	Functioning At Risk
Juniper Flats	White Knob Milepost 63 Northwest Spring	Functioning At Risk
Juniper Flats	White Knob Milepost 63 Northeast Seep	Functioning At Risk
Juniper Flats	Lower White Knob #1	Functioning At Risk: Salt cedar
Juniper Flats	Lower White Knob #2	Proper Functioning Condition
Juniper Flats	White Knob Tailings Spring	Proper Functioning Condition
Juniper Flats	White Knob 71A	Proper Functioning Condition
Juniper Flats	White Knob 71B	Proper Functioning Condition
Juniper Flats	High Road Spring	Proper Functioning Condition
Morongo Valley	Sherman Shady Spring	Functioning At Risk: Land ownership and earth moving activities
Rattlesnake Canyon	Bighorn Mountain Cherry Stem Spring	Functioning At Risk: Grazing, camping and road encroachment
Rattlesnake Canyon	Burns Spring	Functioning At Risk: Road encroachment. Needs verification.
Rattlesnake Canyon*	Willow Spring	Functioning At Risk: Developed

Table 3.3-1. WEMO Planning Area Proper Functioning Condition Assessments in 2012 through 2014

Sub-Region	Location	Finding
Rattlesnake Canyon*	Vaughan Spring	Functioning At Risk: Water diverted
Rattlesnake Canyon*	Unknown Spring (Section 22)	Proper Functioning Condition
Rattlesnake Canyon	Rock Corral	Functioning At Risk: Water diverted
Rattlesnake Canyon	Hidden Springs (BAR14 – 14)	Proper Functioning Condition
Rattlesnake Canyon*	BAR 14 – 16 (Rattlesnake Seeps)	Functioning at risk: Stable
Sierra Canyon*	5-Mile Canyon – Upper	Proper Functioning Condition
Sierra Canyon*	5-Mile Canyon – Lower	Proper Functioning Condition
Stoddard Valley	SV2630 Riparian	Non-Functional. Need to re-route if feasible.
Stoddard Valley	Quail Spring (Isabelle)	Proper Functioning Condition
Stoddard Valley	Horse Spring	Proper Functioning Condition
Stoddard Valley	Horse Spring Southeast	Proper Functioning Condition
Stoddard Valley	Amaral Spring	Proper Functioning Condition
Red Mountain	RM01 Cuddeback Alkali Well 1	Proper Functioning Condition
Red Mountain	RM02 Cuddeback Alkali Well 2	Functioning at risk
Red Mountain	RM3 Steam Well	Nonfunctional
Coolgardie	BAR14-01	Functioning at risk: Upward trend
Coolgardie	BAR14-02	Functioning at risk: Upward trend
Coolgardie	BAR14-03	Functioning at risk: Stable
Calico Mountain	BAR14-04	Proper Functioning Condition
Coolgardie	BAR14-05	Functioning at risk: Salt cedar
Coolgardie	BAR14-06	Nonfunctional: Collapsed well
Coolgardie	BAR14-07	Nonfunctional: Public hazard
Coolgardie	BAR14-08	Functioning at risk: Stable
Stoddard Valley	BAR14-09 (RZ Spring)	Proper Functioning Condition
Stoddard Valley	BAR14-10 (Stoddard Mtn. Spring)	Proper Functioning Condition
Ord Mountain*	Upper Sweetwater West (BAR14-11)	Proper Functioning Condition
Ord Mountain*	Upper Sweetwater East (BAR14-12)	Functioning at risk: Stable

*In a grazing allotment

In addition to the 100 PFC assessments listed above in Table 3.3-1, BLM conducted PFC assessments while conducting Rangeland Health Assessments on grazing allotments in preparation

of grazing permit/lease renewals. Table 3.3-2 summarizes the assessments that were conducted between 1999 and 2011.

Table 3.3-2. PFC Assessments Conducted on Grazing Allotments

Sub-Region	Location	Findings
Ord Mountain	Lower Sweetwater Spring	Functioning at risk: Upward trend
Ord Mountain	Willow Spring	Functioning at risk: Upward trend
Newberry/Rodman	Kane Spring	Functioning at risk: Upward trend
Ord Mountain	Badger Spring	Nonfunctional: Unable to locate source
Rattlesnake Canyon	Vaughn Spring	Proper Functioning Condition
Rattlesnake Canyon	Lower Rattle Spring	Nonfunctional: Road encroachment & grazing
Rattlesnake Canyon	Mound Spring	Proper Functioning Condition
Rattlesnake Canyon	One Hole Spring	Functioning at risk: Upward trend
Rattlesnake Canyon	Two Hole Spring	Proper Functioning Condition
Rattlesnake Canyon	Rattlesnake Spring	Proper Functioning Condition
Rattlesnake Canyon	Dove Spring	Proper Functioning Condition
Rattlesnake Canyon	Willow Spring	Proper Functioning Condition
Rattlesnake Canyon	Viscera Spring (SBNF)	Functioning at risk: Upward trend

In addition to PFC Assessments, BLM has completed a comprehensive GIS analysis of all springs, as identified on the National Hydrography Dataset (NHD). This compilation included a review of more than 3.1 million acres, and identified 183 springs on BLM public lands. The assessment identified a total of 152 route features that intersected within a 100-meter buffer of these areas. BLM has also awarded a contract to the U.S. Fish and Wildlife Service (USFWS) to complete riparian area mapping of 90 quadrangles at a scale of 1:24,000 within the Barstow and Ridgecrest Field Office areas. This study, not completed at this time, will be used by BLM to further evaluate the ongoing impact of motorized vehicles on riparian areas. Currently, two sites, Burns Spring and the SV2630 riparian area are being directly impacted by the existing WEMO route system (linear features).

In the impact analysis in Chapter 4, BLM evaluated the mileage of routes in close proximity to riparian areas and springs as an indicator of potential impacts from motorized vehicles. To support the analysis, BLM developed a GIS-based inventory of springs and riparian areas throughout the planning area. A total of 436 springs are found in the planning area, as well as approximately 46,600 acres of riparian vegetation. Because 50 feet is the minimum corridor width for routes under any of the alternatives, all riparian areas within 50 feet of a route have the potential to be impacted by motorized vehicle use. Therefore, this distance was considered to be a measurement of how the designated route network might impact Proper Functioning Condition (PFC) of riparian areas throughout the planning area. The analysis also included quantification of the mileage of routes passing within 300 feet of all springs in the planning area. The 300 foot width is the current

allowable stopping and parking distance outside of DWMAs in the planning area, and therefore captures all potentially-impacted springs in the area.

3.4 Biological Resources

This section is tiered to the 2005 WEMO Final EIS (BLM 2005) which provides the primary source of baseline information. Section 3.3 from Chapter 3 of the 2005 WEMO Final EIS (pp. 3-64 to 3-194) provides a general description of biological resources and the natural communities in the WEMO Planning area and is herein incorporated by reference. Applicable supplemental information to the planning area has been summarized in the following sections and additional data or updates have been added as needed. This supplemental information includes updated baseline and species information originally discussed in the 2005 WEMO Final EIS as well as discussions of species which were not previously considered in the 2005 WEMO Final EIS.

3.4.1 Natural Communities

The diversity of vegetation that encompass the planning area supports diverse wildlife species, including desert tortoise (*Gopherus agassizii)*, Mohave ground squirrel (*Xerospermophilus mohavensis)*, golden eagle (*Aquila chrysaetos)*, burrowing owl (*Athene cunicularia)*, Sierran tree frog (*Pseudacris sierra)*, red-spotted toad (*Bufo punctatus)*, and numerous bird and reptile species. Habitat exists for sensitive species such as desert bighorn sheep (*Ovis canadensis nelson)*, Swainson's hawk (*Buteo swainsoni)*, and numerous sensitive bat species associated with old mine features. Diverse year-round resident wildlife species of the canyons include ringtails (*Bassariscus astutus)*, cougars (*Puma concolor)*, bobcats (*Lynx rufus)*, kit foxes (*Vulpes macrotis)*, and grey fox (*Urocyon cinereoargenteus)*.

Within the WEMO Planning area, linkages of habitats for wildlife migration are critical to the conservation of certain species, especially with respect to climate change. These species include the desert tortoise, desert bighorn sheep, and Mohave ground squirrel. The locations of these desert network linkages within the project area are found in Table 3.4-1 and Figure 3.4-1. Included in the planning area is a segment of the Pacific migratory bird flyway for many species of songbirds, shorebirds, and waterfowl; and includes stop-over riparian and wetland habitat. Riparian areas here provide important migratory stop-over habitat for the Federally-listed Least Bell's Vireo and Southwest Willow Flycatcher. This flyway also provides excellent habitat for Golden Eagles and other raptors, with nearby cliffs for nesting and the valley floor for foraging.

Table 3.4-1. Acres of Desert Linkage Networks on BLM Lands within the WEMO Planning Area by Subregion

Subregion	Subregion Abbreviation	Sum of Acres
Afton Canyon	AC	30227.2
Barstow	BA	5067.8
Black Mountain	BM	40514.9
Broadwell Lake	BL	32615.0
Calico Mountains	CM	36582.1
Coolgardie	CG	54064.1
Cronese Lake	CL	26840.7
El Mirage	EM	10051.6

Table 3.4-1. Acres of Desert Linkage Networks on BLM Lands within the WEMO Planning Area by Subregion

Subregion	Subregion Abbreviation	Sum of Acres
El Paso	EP	79455.5
Fremont Peak	FP	45653.0
Harper Lake	HL	19022.2
Iron Mountain	IM	11395.4
Jawbone	JB	84225.5
Johnson Valley	JV	50960.4
Juniper Flats	JF	20525.0
Kramer Hills	KH	40133.4
Lancaster	LA	1941.0
Middle Knob	MK	18353.9
Mitchel Mountains	MM	7480.5
Morongo Valley	MV	1835.9
NA	NA	328.7
Needles South	NE	39586.8
Newberry/Rodman	NR	4988.6
North Searles	NS	37822.0
Ord Mountains	OM	26145.1
Pisgah Crater	PC	1417.0
Rands	RA	14618.5
Rattlesnake Canyon	RC	34094.9
Red Mountain	RM	104535.2
Ridgecrest	RI	53580.6
Sierra	SI	47325.0
South Searles	SS	258.3
Stoddard Valley	SV	77262.6
Victorville	VV	3849.8
Wonder Valley	WV	6592.0

3.4.2 Unusual Plant Assemblages

The CDCA recognized areas throughout the CDCA as Unusual Plant Assemblages (UPAs) which are extraordinary based on unusual age, unusual size, unusually high cover density, or disjunction from main centers of distribution. Areas with restricted and discontinuous habitats are also UPAs, and include seeps, springs, and riparian areas, as well as plants growing on restricted substrates such as limestone outcrops or sand dunes. The UPAs are shown in Figure 3.4-2.

3.4.3 Special Status Species

Special status species include those listed as threatened, endangered, proposed, or candidates under the federal Endangered Species Act; BLM Sensitive species; California threatened, endangered, species of concern, and state fully protected; California Rare Plant Rank 1B, and species of concern identified through personal communication with BLM biologists.

3.4.3.1 Plants

A total of 45 special status plant species were identified as potentially occurring within the planning area (BLM 2005, 2013a, b; Dudek and ICF International 2012). These species, their associated habitats, and their potential for occurrence within the study area are summarized in Appendix D, Special Status Species. The potential for each of the 45 species to be affected by the proposed action or alternatives was evaluated for each species based on their known distribution and suitable habitat within the planning area. Based on these evaluations, 16 special status plant species have been determined as not affected by the proposed action or alternatives as discussed in Appendix D, Special Status Species. The remaining 29 species were identified by the locations of element occurrences on BLM lands as determined by the CNDDB and designated Critical Habitat. The total acreage identified as potential occurrence for each of the 29 species by subregion are listed in Table 3.4-2.

Table 3.4-2. Acres of Identified Special Status Plant Species Potential Occurrence on BLM Lands within the WEMO Planning Area by Subregion

Subregion	Subregion Abbreviation	Species	Potential Occurrence Type	Sum of Acres
Barstow	BA	Mojave monkeyflower	CNDDB	34.3
		Parish's phacelia	CNDDB	0.1
Black Mountain	BM	Barstow woolly sunflower	CNDDB	4.9
		Desert cymopterus	CNDDB	724.1
Broadwell Lake	BL	White-margined Beardtongue	CNDDB	1015.3
Calico Mountains	CM	Mojave monkeyflower	CNDDB	1070.5
		Parish's phacelia	CNDDB	325.5
Coolgardie	CG	Alkali mariposa lily	CNDDB	3.3
		Barstow woolly sunflower	CNDDB	5.0
		Clokey's cryptantha	CNDDB	247.3
		Lane Mountain milk-vetch	CNDDB	2003.9
			Critical Habitat	9887.6
Cronese Lake	CL	Parish's phacelia	CNDDB	579.2
Darwin	DA	Death Valley sandpaper-plant	CNDDB	1425.2
El Paso	EP	Charlotte's phacelia	CNDDB	200.0
		Red rock poppy	CNDDB	176.9
		Red rock tarplant	CNDDB	69.0

Table 3.4-2. Acres of Identified Special Status Plant Species Potential Occurrence on BLM Lands within the WEMO Planning Area by Subregion

Subregion	Subregion Abbreviation	Species	Potential Occurrence Type	Sum of Acres
Fremont Peak	FP	Barstow woolly sunflower	CNDDB	1835.4
		Desert cymopterus	CNDDB	9.9
Harper Lake	HL	Barstow woolly sunflower	CNDDB	1488.7
		Desert cymopterus	CNDDB	736.7
		Mojave monkeyflower	CNDDB	38.9
		Parish's phacelia	CNDDB	354.1
Iron Mountain	IM	Barstow woolly sunflower	CNDDB	35.2
Jawbone	JB	Charlotte's phacelia	CNDDB	177.9
		Kelso Creek monkeyflower	CNDDB	650.9
		Mojave tarplant	CNDDB	7.5
		Spanish Needle onion	CNDDB	1.4
Johnson Valley	JV	Little san bernardino mountains linanthus	CNDDB	4.9
Joshua Tree	JT		CNDDB	14.8
Juniper Flats	JF	Cushenbury buckwheat	CNDDB	31.6
			Critical Habitat	30.7
		Cushenbury milk-vetch	CNDDB	4.2
			Critical Habitat	8.5
		Mojave tarplant	CNDDB	52.6
		Parish's daisy	CNDDB	52.1
			Critical Habitat	64.2
Kramer Hills	KH	Barstow woolly sunflower	CNDDB	36.9
		Desert cymopterus	CNDDB	4.9
Middle Knob	MK	Bakersfield cactus	CNDDB	0.5
		Charlotte's phacelia	CNDDB	19.0
		Kern buckwheat	CNDDB	23.0
Mitchel Mountains	MM	Barstow woolly sunflower	CNDDB	1.0
		Mojave monkeyflower	CNDDB	125.3
Needles South	NE	White-margined Beardtongue	CNDDB	1752.3
Newberry/Rodman	NR	Mojave monkeyflower	CNDDB	250.5
Ord Mountains	OM	Clokey's cryptantha	CNDDB	4.9
		Mojave monkeyflower	CNDDB	223.7
Pisgah Crater	PC	White-margined Beardtongue	CNDDB	202.9
Rands	RA	Charlotte's phacelia	CNDDB	28.4
		Clokey's cryptantha	CNDDB	1689.3
		Desert cymopterus	CNDDB	0.3
		Red rock poppy	CNDDB	6.9

Table 3.4-2. Acres of Identified Special Status Plant Species Potential Occurrence on BLM Lands within the WEMO Planning Area by Subregion

Subregion	Subregion Abbreviation	Species	Potential Occurrence Type	Sum of Acres
Rattlesnake Canyon	RC	Cushenbury buckwheat	CNDDB	732.3
			Critical Habitat	389.0
		Cushenbury milk-vetch	CNDDB	153.5
			Critical Habitat	827.3
		Cushenbury oxytheca	Critical Habitat	83.2
		Little san bernardino mountains linanthus	CNDDB	224.4
		Mojave monkeyflower	CNDDB	390.2
		Parish's daisy	CNDDB	288.0
			Critical Habitat	875.4
		Robison's monardella	CNDDB	55.8
Red Mountain	RM	Barstow woolly sunflower	CNDDB	16.3
		Desert cymopterus	CNDDB	1904.3
		Red rock poppy	CNDDB	176.1
Ridgecrest	RI		CNDDB	1809.7
Sierra	SI	Charlotte's phacelia	CNDDB	693.6
		Dedecker's clover	CNDDB	28.8
		Hall's daisy	CNDDB	65.3
		Mojave tarplant	CNDDB	20.8
		Nine Mile Canyon phacelia	CNDDB	245.5
		Owens Peak lomatium	CNDDB	79.4
		Sanicle cymopterus	CNDDB	388.8
		Spanish Needle onion	CNDDB	5.0
Stoddard Valley	SV	Barstow woolly sunflower	CNDDB	855.9
		Mojave monkeyflower	CNDDB	170.4
		Parish's phacelia	CNDDB	394.8
Victorville	VV	Mojave tarplant	CNDDB	0.0
		Short-joint Beavertail Cactus	CNDDB	24.6
Wonder Valley	WV	Little san bernardino mountains linanthus	CNDDB	53.3
		Robison's monardella	CNDDB	82.2

The 29 special status plant species identified as potentially affected by the proposed action or alternatives within the planning area are described in the following section. The majority of the updated summaries of species are based on the Species Accounts prepared for the recent March 2012 draft Desert Renewable Energy Conservation Plan (Dudek and ICF International 2012) baseline biology report. The WEMO Planning area exists within the boundaries of the DRECP

planning area. Additionally, 12 species were not included in the analysis of the 2006 WEMO Plan, but are since considered to potentially occur within the planning area based on recent documentation (Dudek and ICF International 2012) and consultation with BLM biologists. These species include the:

- Bakersfield Cactus
- Clokey's Cryptantha
- Death Valley Sandpaper-plant
- Dedecker's Clover
- Hall's Daisy
- Nine Mile Canyon Phacelia
- Owens Peak Lomatium
- Robison's Monardella
- Ripley's Cymopterus
- Spanish Needle Onion
- San Bernardino Mountains Dudleya
- Tracy's eriastrum

Alkali Mariposa Lily *(Calochortus striatus)*

Background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005).For a general discussion of this species, please refer to Section 3.3.8.1, pp. 3-184 to 3-185 of the 2005 WEMO Final EIS. The supplemental information presented below is based on the species accounts prepared for the recent March 2012 draft Desert Renewable Energy Conservation Plan baseline biology report (Dudek and ICF International 2012) and recent BLM data.

Life History

Alkali mariposa lily grows in seasonally moist alkaline habitats with calcareous sandy soil within Mojavean desert scrub communities (Dudek and ICF International 2012). This species prefers claypans and sand dunes, especially along drainages, in halophytic (associated with saline soils) saltbush scrub (Dudek and ICF International 2012). It has been reported that periodic natural inundation is important to alkali mariposa-lily, however, alkali mariposa-lily has been reported as absent from areas with surface salts or areas with permanent standing surface water (Dudek and ICF International 2012). This species ranges in elevation from 224 to 5,240 feet (Dudek and ICF International 2012).

Some associated species include saltgrass (*Distichlis spicata*), rushes (*Juncus* spp.), sedges (*Carex* spp.), beardgrass (*Polypogon* sp.), dock (*Rumex* sp.), alkali sacaton (*Sporobolus airoides*), beardless wildrye (*Elymus triticoides*), dwarf checkerbloom (*Sidalcea malviflora*), rabbitbrush (*Chrysothamnus* sp.), Baltic rush (*Juncus balticus*), and yellow sweetclover (*Melilotus indicus*) (Dudek and ICF International 2012).

Population Status in the Planning Area

Known distribution data for the alkali mariposa-lily within the WEMO Planning area is depicted in Figure 3.4-3. Within the planning area, the CNDDB identifies approximately 3.3 acres within element occurrences for this species on BLM lands within the subregion Coolgardie (Table 3.4-2 and Figure 3.4-3).

Regulatory Status

The regulatory status for the alkali mariposa lily has been updated from the 2005 WEMO Final EIS (BLM 2005) to eliminate the California Species of Special Concern status (as described in Section 3.3.8.1, pg. 3-185 of the 2005 WEMO Final EIS) and add a BLM sensitive designation.

Alkali mariposa-lily is not Federally or state listed, but is a BLM sensitive species. This species is also a CRPR 1B.2 species. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "seriously threatened in California, with 20% to 80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). The alkali mariposa-lily has a California Heritage Element Ranking of S2, indicating that it is "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" (CDFW 2012b).

Threats

The greatest threat to alkali mariposa-lily is the lowering of water tables through hydrological alternations and water diversions, which alters the seasonally moist alkaline habitat that this species requires. Other threats include urbanization, grazing, trampling, road construction, dumping, and military operations (NatureServe 2011).

Bakersfield Cactus *(Opuntia basilaris var. treleasei)*

The Bakersfield cactus was not included in the 2005 WEMO Final EIS (BLM 2005), but is considered to potentially occur within the planning area based on recent documentation (Dudek and ICF International 2012) and consultation with BLM biologists. The information presented below is based on the species accounts prepared for the recent March 2012 draft Desert Renewable Energy Conservation Plan baseline biology report (Dudek and ICF International 2012).

Life History

Bakersfield cactus is a perennial stem succulent in the cactus family (*Cactaceae*) with low-growing stem segments approximately 9 to 20 centimeters (3.5 to 7.9 inches) long (USFWS 2011c; Jepson Flora Project 2011). It blooms from April to May (CNPS 2011). Though not certain for this variety, some other prickly-pear species require cross-pollination for seedset and many are pollinated by bees. Bakersfield cactus exhibits several features that are characteristic of bee pollination. Flowers are large and showy with a watermelon-like odor, has a long flowering period, and large amount of nutritious pollen from numerous stamens (Jepson Flora Project 2011; Grant and Grant 1979). Flowers of beavertail prickly-pear are commonly visited by beetles and bees, but are pollinated mainly by bees (Grant and Grant 1979).

Bakersfield cactus typically undergoes vegetative reproduction—the production of new plants from sources other than seed—and produces seeds infrequently. Fallen pads can take root. Cactus pads may be dispersed by flood waters. Seed dispersal agents are unknown (USFWS 2011c), but the fruits and vegetative parts of *Opuntia* species in general, such as the spiny cladode (flattened stem resembling and functioning as a leaf), are closely linked with seed dispersal and vegetative dissemination by animals (Reyes-Agüero and others 2006). Bakersfield cactus does not survive prolonged inundation (USFWS 2011c).

Competition with non-native grasses for water is likely the cause of the decline in the number of cactus pads and low rates of reproduction observed in recent population studies at Sand Ridge Preserve (USFWS 2011c). In addition, a decline in pollinators may be partly responsible for the low levels and infrequency of seed set observed (USFWS 2011c). Predation of Bakersfield cactus is unknown though it is not considered a threat to this species (USFWS 2011c). In Mexico, the seed and fruits of other *Opuntia* species are consumed primarily by rodents, but also by harvester ants, birds, and other mammals (González-Espinosa and Quintana-Ascencio 1986).

Bakersfield cactus grows primarily in chenopod scrub, including saltbush scrub; and valley and foothill grassland; and occasionally in cismontane woodland, including blue oak woodland and riparian woodland (CNPS 2011; USFWS 2011c; CDFW 2012b; Jepson Flora Project 2011). Some associated species include California filago (*Filago californica*), yellow pincushion (*Chaenactis glabriuscula*), red brome, and other nonnative annual grasses (USFWS 2011c).

Bakersfield cactus occurs on floodplains, ridges, bluffs and low rolling hills, and flats (USFWS 2011c; CDFW 2012b). Soils are sandy or gravelly with little silt and clay, are low in organic matter, and may contain cobbles or boulders (CNPS 2011; USFWS 2011c); they are granitic and well-drained (CDFW 2012b). Bakersfield cactus ranges from 90 to 1,140 meters (295 to 3,740 feet) (CNPS 2011; CDFW 2012a).

Population Status in the Planning Area

Bakersfield cactus occurs in the Tehachapi Mountain area and the southeastern San Joaquin Valley in Kern County, California (Jepson Flora Project 2011). The historical distribution of Bakersfield cactus was likely more or less continuous east of Bakersfield, from Granite Station south to Comanche Point, east to Caliente, and west to Oildale (USFWS 1998c, 2011). However, it is currently restricted to a limited area of central Kern County near Bakersfield in the southern San Joaquin Valley, where the remaining populations occur in 11 general areas (USFWS 2011c). Approximately one-third of the historical population has been extirpated (USFWS 1998c).

Once likely more or less continuous east of Bakersfield, the current range of Bakersfield cactus consists of scattered fragments of these once larger populations (USFWS 2011c). Of the 46 reported occurrences reported in CNDDB, 8 are extirpated and 1 is potentially extirpated (CDFW 2012b).

Though the total population of Bakersfield cactus was not estimated historically, densely spaced clumps of cactus once covered an estimated area of 2 square miles from the Caliente Creek floodplain onto Sand Ridge (USFWS 2011c). When known sites were inventoried in 1989, fewer than 20,000 clumps of Bakersfield cactus were estimated to remain. Only four areas had populations of 1,000 clumps or more: Comanche Point, Kern Bluff, Sand Ridge, and the area north of Wheeler Ridge (USFWS 2011c). A status survey in 2010 and 2011 was conducted to determine the current state of the historical occurrences of Bakersfield cactus throughout its range (USFWS 2011c; Cypher and others 2011). Based on these surveys which focused on existing CNDDB occurrences, 25 occurrences were confirmed extant, 11 are believed to be extirpated, the status of 3 could not be determined, 2 previously unreported populations were documented, and 6 undocumented translocated populations were identified (CDFW 2012b). Therefore, there is a minimum of 33 extant occurrences (Cypher and others 2011).

Of the six occurrences documented in the CNDDB within the planning area, one is considered historical (i.e., before 1990) with plants that have not been observed since 1934. This occurrence is

mapped approximately 1 mile south of Fram. The historical occurrence in the planning area is the east of the recent occurrences described below. Although the historical distribution has not been well documented, it appears that the variety's range has recently expanded to the southeast considering Bakersfield cactus' southern limit as of 1987 was Comanche Point and its eastern limit was Caliente.

The recent occurrences of Bakersfield cactus reported in the planning area by the CNDDB occur at Oak Creek Pass in the Tehachapi Mountains, and near West Antelope Station and east of Bean Canyon at the foothills of the Tehachapi Mountains (CDFW 2012b). Three of these occurrences are located on private land; ownership of the other two is unknown (CDFW 2012b). These five occurrences are all very new, found in 2009 and 2010, and extend the variety's range southeast since they occur south of Comanche Point and east of Caliente, which were considered range limits in 1987 according to the 5-Year Review (USFWS 2011c).

Known distribution data for the Bakersfield cactus within the WEMO Planning area is depicted in Figure 3.4-4. Within the planning area, the CNDDB identifies approximately 0.5 acre of element occurrences for this species on BLM lands within the Middle Knob subregion (Table 3.4-2 and Figure 3.4-4).

Regulatory Status

Bakersfield cactus is both state and Federally listed as endangered. A recovery plan has been prepared for this species: *Recovery Plan for Upland Species of the San Joaquin Valley, California* (USFWS 1998c). Bakersfield cactus has a CRPR of 1B.1. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .1 are "seriously threatened in California, with over 80% of occurrences threatened/high degree and immediacy of threat" (CNPS 2011). The Ash Bakersfield cactus has a California Heritage Element Ranking of S1, indicating that it is "critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province" (CDFW 2012b).

Threats

Agricultural land conversion, oil development, sand mining, urbanization, off-road vehicle use, proposed flood control basins, telecommunication and electrical lines construction, and possibly wildfires were considered threats to Bakersfield cactus habitat at the time of its listing in 1990 (USFWS 2011c). Currently, the loss and modification of habitat from agricultural conversion and urban, especially residential, development remain the largest threats to Bakersfield cactus (USFWS 2011c). Threats today also include oil development, off-road vehicle use, sand mining, and competition from non-native grasses. In addition, climate change, air pollution (including elevated nitrogen deposition), loss of pollinators, flooding, and loss of genetic diversity have been identified as potential new threats (USFWS 2011c).

Barstow Woolly Sunflower *(Eriophyllum mohavense)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.2, pp. 3-185) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Barstow woolly sunflower is in the aster family (Asteraceae) (Jepson Flora Project 2011). It is an annual herb standing approximately 1 to 2.5 centimeters (0.4 to 1 inch) in height that blooms from March to April or May, then goes to fruit in May (CNPS 2011; Jepson Flora Project 2011; NatureServe 2011). Plants tend to be clumped together. As an annual, germination and establishment of this species depends on the amount and timing of winter and spring rains. There is no information available regarding pollinators, seed dispersal, seed germination, or seedling establishment.

Barstow woolly sunflower prefers sandy or rocky areas within chenopod scrub, Mojavean desert scrub, creosote bush scrub, and also occurs on playas (NatureServe 2011; CNPS 2011; Jepson Flora Project 2011). This species prefers bare areas with little soil that frequently contain a shallow subsurface caliche layer (BLM 2005).

Population Status in the Planning Area

This species is endemic to the west-central portion of California's Mojave Desert (NatureServe 2011; Jepson Flora Project 2011). According to NatureServe (2010), Barstow woolly sunflower is restricted to a range within a 30-mile radius of Barstow in San Bernardino and Kern counties. The species' elevation range extends from 1,640 to 3,150 feet (CNPS 2011). All of the 63 total CNDDB occurrences are in the planning area (CDFW 2012b; see Figure SP-P7 in Appendix B). In 2006, there were approximately 10,600 known Barstow woolly sunflower individuals (NatureServe 2011). Population trends for this species are unknown.

The CNDDB identifies approximately 4,279 acres within element occurrences for this species within the planning area on BLM lands (Figure 3.4-5). The amount of acres identified within each subregion is detailed above in Table 3.4-2. In addition, approximately 19,069 acres has been designated as the Barstow Woolly Sunflower ACEC within the Fremont Peak subregion to protect the plant (Figure 3.4-5).

Regulatory Status

Barstow woolly sunflower is not Federally or state listed, but is a BLM sensitive species. Barstow woolly sunflower has a CRPR of 1B.2. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "seriously threatened in California, with 20% to 80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). The Barstow woolly sunflower has a California Heritage Element Ranking of S2, indicating that it is "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" (CDFW 2012b).

Threats

Threats to Barstow woolly sunflower include energy and subdivision development, sheep grazing, off-road vehicle use, highway and road improvements and building, mining, dumping, and pipeline construction (NatureServe 2011; CNPS 2011). Of these threats, those of primary concern include energy development, sheep grazing, off-road vehicles, and highway improvements (NatureServe 2011). According to NatureServe (2010), several Barstow woolly sunflower sites may be

extirpated, but their status has not been reported to the CNDDB. Currently, only one CNDDB occurrence is recorded as possibly extirpated (CDFW 2012b).

Charlotte's Phacelia *(Phacelia nashiana)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.4, pp. 3-186 and 3-187) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Charlotte's phacelia is an annual herb in the borage or waterleaf family (Boraginaceae) that is endemic to California. Charlotte's phacelia is typically 3 to 18 centimeters (1.2 to 7.1 inches) tall (Jepson Flora Project 2011). Flowering periods have been variously reported between March and June and Charlotte's phacelia can be found in flower by late March at lower elevations (White 2006a; CCH 2011). However, specimens collected by Chester, Kay, and Madore from Borrego Palm Canyon were also flowering in February (CCH 2011).

Some *Phacelia* species, such as Parry's phacelia, are fire-adapted, but it is unknown whether Charlotte's phacelia has any similar adaptation trigger. The habitats occupied by Charlotte's phacelia are frequently open and sparse, and the elevation ranges are higher than other *Phacelia* species, which could suggest that a similar, fire-adapted lineage is not likely (White 2006a). Pollination vectors and seed dispersal remain unknown for the species. Population data collected in a few known locations over time appear to fluctuate widely (CDFW 2012b), and hydrology could be key in both distribution and population size.

Population Status within the Planning Area

Based on the evident taxonomic confusion described in Appendix B, the distribution and extent of Charlotte's phacelia is less clear, and occurrences of Charlotte's phacelia could be more widespread than current records reflect. The records and distribution information in this report address the known locations of populations that have been previously identified as Charlotte's phacelia, including the isolated population in San Diego County.

Charlotte's phacelia is an endemic species that occurs in the desert-facing foothills of the Sierra Nevada and the adjacent El Paso Mountains, in Tulare, Inyo, and Kern counties (White 2006a). Although not mentioned in White (2006a), Charlotte's phacelia also occurs in Anza-Borrego State Park in San Diego County (CCH 2011).

Some population data are known for Charlotte's phacelia, but not much data has been provided regarding the populations status over time. Known distribution data for this species within the WEMO Planning area is depicted in Figure 3.4-6. Within the planning area, the CNDDB identifies approximately 1,119 acres of element occurrences for this species on BLM lands. The amount of acres of potential occurrence for this species within each subregion is detailed above in Table 3.4-2.

The BLM WEMO Final EIS (2005) recommends that further surveys be made to record fluctuations in population estimates at known locations, particularly with respect to the potential effects of grazing. Grazing cattle could play a role in seed dispersal, either through soil disturbance or via the digestive tract (White 2006a).

Regulatory Status

Charlotte's phacelia is not Federally or state listed, but is a BLM sensitive species. Charlotte's phacelia has a CRPR of 1B.2. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "seriously threatened in California, with 20% to 80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). The Barstow woolly sunflower has a California Heritage Element Ranking of S2, indicating that it is "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" (CDFW 2012b).

Threats

Impacts to Charlotte's phacelia from grazing and off-road vehicles are the most frequently noted threats in the CNDDB records (CDFW 2012b). Trampling and collecting by hikers were also listed as threats to populations that occur along trails and within parks and recreational areas. Mining activities were noted as threats in a few locations, and activities and/or expansion of facilities at China Lake Naval Air Weapons Center could also pose a threat to populations near Volcano Peak outside of the planning area and Indian Wells within the planning area.

Clokey's Cryptantha *(Cryptantha clokeyi)*

Life History

Clokey's cryptantha is an annual herb in the borage or waterleaf family (Boraginaceae) that is endemic to California. Clokey's cryptantha is typically 8 to 15 centimeters (3.1 to 5.9 inches) tall (Jepson Flora Project 2013). Flowering period is from April to May (Jepson Flora Project 2013).

Clokey's cryptantha is found on slopes and ridge crests. Substrates may be sandy, rocky, or gravelly (CNPS 2013; Jepson Flora Project 2013). This species is found in desert woodland vegetation communities. The elevation range of Clokey's cryptantha is 3,445 to 5,413 feet amsl (Jepson Flora Project 2013).

Population Status in the Planning Area

Endemic to California (Inyo, Kern, Los Angeles, and San Bernardino Counties) (CNPS 2013) and found in the northwest Mojave Desert and in the north Desert Mountains (Jepson Flora Project 2013). Clokey's cryptantha is broadly distributed in the planning area, found in both the desert near Lancaster, Barstow, Ridgecrest, and Apple Valley, and in the north Desert Mountains, including the Argus Mountains and the Panamint Range (CNPS 2013).

Known distribution data for Clokey's cryptantha within the WEMO Planning area is depicted in Figure 3.4-7. Within the planning area, the CNDDB identifies approximately 1,942 acres of element occurrences for this species on BLM lands. The amount of acres of potential occurrence for this species within each subregion is detailed above in Table 3.4-2.

Regulatory Status

Clokey's cryptantha is not a federal or state listed species (CNPS 2013), but is a BLM sensitive species. Clokey's cryptantha has a CRPR of 1B.2 (CNPS 2013). CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with

a threat rank of .2 are "seriously threatened in California, with 20% to 80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). Clokey's cryptantha has a California Heritage Element Ranking of S2, indicating that it is "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" (CDFW 2012b).

Threats

Clokey's cryptantha is threatened by military activities and alteration of fire regimes (CNPS 2013).

Cushenbury Buckwheat *(Eriogonum ovalifolium var. vineum)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.3, pp. 3-186) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Cushenbury buckwheat is in the buckwheat family (Polygonaceae) (Jepson Flora Project 2011). It is a mound-forming perennial herb approximately 1.5 to 2.5 decimeters (5.9 to 9.8 inches) in diameter (Sanders 2003).

A study of the Cushenbury buckwheat's reproduction patterns found it to be an outcrossed species with high levels of diversity, low levels of inbreeding among maternal individuals, and selection against homozygous offspring (Neel and others 2001). The main flowering period is May and June, and fruits ripen in about July and prepare for germination during any summer rains in August and September (Sanders 2003). There can also be later flowering in September. It is probably pollinated by small insects and possibly by generalist flower visitors rather than a specialist (Sanders 2003). A personal communication to Sanders (2003) by Morita indicated that nearly 100 insect species visited flowers, including potential pollinators and plant feeders. Insect taxa visiting flowers included many flies (particularly tachinids), bee-flies (Bombylidae), and smaller species such as chloropids (Sanders 2003). A reintroduction study onto a disturbed site by Mistretta and White (2001) showed about 77% survival from 1991 to 1998 and successful reproduction within 6.6 feet of planting areas. Mistretta and White (2001) suggested that Cushenbury buckwheat does not depend on specialized pollinators or soil microorganisms due to the success of the species at the disturbed site, as well as in botanical gardens. Short dispersals likely are wind-aided, with the dried tepals (a division of the perianth where the petals and sepals are indistinguishable) acting as wings (Sanders 2003). Long-distance seed dispersal by this species has not been directly studied, but buckwheat seeds are thought to be dispersed by birds; however, there is no evidence of long-distance dispersal by Cushenbury buckwheat given its restricted distribution (Sanders 2003). As noted previously, Mistretta and White (2001) documented progeny within 6.6 feet of planting areas and no individuals were found more than 98 feet from planting areas.

The species *Eriogonum ovalifolium* is not well adapted to competing for light due to its low stature, but it competes well on sites with moisture and nutrient deficiencies, wind, and winter cold due to its compact "cushion" habit (Sanders 2003). The dense covering wool on its leaves, which reduces water loss, indicates that moisture and light are not controlling factors for this species. Tall, fast-growing species that may out compete *Eriogonum ovalifolium* for light do not grow well

on limestone sites with nutrient deficiencies and high pH, which interferes with mineral uptake (Sanders 2003).

Cushenbury buckwheat does not appear to tolerate high or continuing levels of anthropogenic or natural disturbance (e.g., washes and canyon bottoms), but has been observed colonizing abandoned haul roads (Sanders 2003). Mistretta and White (2001) were able to successfully reintroduce it to a barren cut slope above a quarry haul road where no habitat enhancements were made other than irrigation the first summer and fall after planting and use of the potting soil mix surrounding the roots of the plantings.

Cushenbury buckwheat is closely associated with carbonate substrates on stable slopes with bedrock outcrops and elevations between about 4,600 and 7,900 feet (Sanders 2003; USFWS 2009d; CDFW 2012b). It has never been found away from carbonate substrates and appears to be more closely associated with limestone than dolomite, but this preference needs confirmation (Sanders 2003). General vegetation communities associated with the species are pinyon-juniper woodland, Joshua tree woodland, and Mojavean desert scrub (CNPS 2011; CDFW 2012b). Sanders (2003) notes that it also has been observed in Jeffrey pine-western juniper woodland. It occurs in open areas on gentle to steep slopes with north or west aspects, little accumulation of organic material, open canopy cover (generally less than 15%), and powdery fine soils with rock cover exceeding 50% (USFWS 2009d). Although it may be locally common, individuals tend to occur in scattered distributions (Sanders 2003), and only about 25% of less than 20 occurrence locations known in 1984 supported more than 1,000 individuals (USFWS 2009d).

Population Status in the Planning Area

Cushenbury buckwheat is endemic to the San Bernardino Mountains in San Bernardino County (USFWS 2009d). However, Sanders (2003) reports a possible, but unconfirmed, small population in the southern Sierra Nevada Mountains (Sanders 2003). The species occurs along the northeastern edge of the San Bernardino Mountains, northwest, north, and east of Big Bear Lake from White Mountain southeast to Mineral Mountain on the north side of Rattlesnake Canyon (Sanders 2003; USFWS 2009d; see Figure SP-P9 in Appendix B).

The estimated population of Cushenbury buckwheat when it was listed in 1994 was estimated to be about 13,000 individuals in fewer than 20 locations, with about 25% of the occurrence supporting fewer than 1,000 individuals (USFWS 2009d). At the time critical habitat was designated in 2002, there were 239 site-specific occurrences of Cushenbury buckwheat (67 FR 78570–78610). However, in the 5-year review in 2009, the USFWS (2009d) indicated that determining population trends was difficult because what constitutes site-specific occurrences has been subjectively defined and surveys efforts have likely increased since its listing in 1994.

The CNDDB identifies approximately 1,184 acres of element occurrences for this species within the planning area (Table 3.4-2 and Figure 3.4-8). The 1,184 acres for this species includes approximately 420 acres of Critical Habitat designated within the planning area (Figure 3.4-8). In addition, approximately 4,357 acres has been designated as the Carbonate Endemic Plants RNA ACEC within the Rattlesnake Canyon subregion to protect the plant (Figure 3.4-8).

Regulatory Status

Cushenbury buckwheat is Federally listed as endangered but is not state listed. A recovery plan addresses this species: *San Bernardino Mountains Carbonate Plants Draft Recovery Plan*

(USFWS 1997b). Cushenbury buckwheat has a CRPR of 1B.1. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .1 are "seriously threatened in California, with over 80% of occurrences threatened/high degree and immediacy of threat" (CNPS 2011). The Cushenbury buckwheat has a California Heritage Element Ranking of S1, indicating that it is "critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province" (CDFW 2012b).

Threats

The main threat to Cushenbury buckwheat when it was Federally listed in 1994 was mining (USFWS 2009d). Other threats at the time included OHV use, a hydroelectric project, and a 115-kilovolt power line proposed for construction through Cushenbury Canyon (USFWS 2009d). About 75% of occupied habitat was under threat as a result of being under claim for mining, in private ownership and subject to mining, or as a result of other disturbances (USFWS 2009d). Mining continues to be the primary threat to the species, but other threats include energy development and OHV use, which can result in direct ground disturbance and dust generation (USFWS 2009d). Further, dispersed target shooting, dispersed camping areas, and fuelwood collection can result in trampling of Cushenbury buckwheat and impact its habitat through ground disturbance or dust creation (USFWS 2009d). Padgett and others (2007) conducted a study examining dust deposition from mining activities and potential effects to Cushenbury buckwheat and other carbonate plant species. This study documented lower photosynthetic activity and less growth for plants near mining activities due to dust. Fire suppression activities can result in ground disturbance through fire line construction, retardant and water drops, and establishment of fire camps (USFWS 2009d). Artificial lighting is also cited as a potential threat due to potential impacts on the behavior of pollinators or seed dispersers, or by altering photoperiod responses (USFWS 2009d).

The specific potential effects of climate change on Cushenbury buckwheat are unknown, but if climate change caused a shift to higher elevations due to warmer and drier conditions, as has occurred with other plant species on the Santa Rosa Mountains of Southern California (Kelley and Goulden 2008), this endemic species could be concentrated in a smaller area and more vulnerable to extinction (USFWS 2009d).

Cushenbury Milk-vetch *(Astragalus albens)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.3, pp. 3-186) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Cushenbury milk-vetch is a member of the legume family (Fabaceae). It is a prostrate annual or perennial plant with stems approximately 2 to 30 centimeters (0.8 to 12 inches) in length (MacKay 2003). Individual plants may be annual or perennial (MacKay 2003; Hickman 1996), but otherwise little is known of its natural history, including reproduction (MacKay 2003). Flowering occurs from late March to mid-June and pods ripen as early as May (MacKay 2003). It is probably pollinated by small bees given flower shape and color (MacKay 2003; USFWS 2009e). It is

unknown whether plants flower and fruit in their first year, how long they live, or what conditions cause them to be annuals or perennials (MacKay 2003). They reproduce by seed and seeds have been shown to have high viability (MacKay 2003). Seeds require scarification (cutting of the outer seed coat) to germinate and may remain dormant in the soil during drought years (MacKay 2003). The length of time seeds can remain viable, the characteristics of seed banks (e.g., size, kinds of seeds), and the type and extent of seed predation and/or dispersal are unknown (MacKay 2003). However, populations increase in response to rainy seasons after droughts, indicating that seed banks persist and seeds remain viable for at least several years (MacKay 2003).

Other than their association with carbonate soils and some other habitat features such as canopy, litter, and slope described in Habitat Requirements, little is known of the life history and ecological relationships of Cushenbury milk-vetch. Pollinators are probably small bees and seeds appear to have high viability and resistance to drought (MacKay 2003). Dispersal mechanisms are unknown. Of particular interest is the factor(s) related to whether individuals are annual or perennial. A factor potentially related to conservation and management of the species is its apparent ability to colonize slightly disturbed sites such as little used roads and long abandoned quarries, but it does not appear to tolerate high or continuing levels of disturbance (MacKay 2003).

Cushenbury milk-vetch is closely associated with carbonate and carbonate-related soils (limestone and dolomite) and outcrops at elevations between 4,000 and 6,600 feet (MacKay 2003). General vegetation communities associated with the species are pinyon-juniper woodland, Joshua tree woodland, and Mojave desert scrub (CNPS 2011). Most occurrences are between 5,000 and 6,600 feet for soils deriving from decomposed limestone (USFWS 2009e). In some cases, the species has been found in carbonate alluvium that was deposited over granitic rocks or has fallen into other soils as a result of a debris slide (MacKay 2003).

Population Status in the Planning Area

Cushenbury milk-vetch is endemic to the San Bernardino Mountains in San Bernardino County (USFWS 2009e). The species occurs along the northeastern end of the San Bernardino Mountains, north and east of Big Bear Lake from a ridgetop just east of Dry Canyon, southeast through Lone Valley, east of Baldwin Lake, and to upper Burns Canyon (MacKay 2003). As of 2002, there were an estimated 103 mapped localities for the species (67 FR 78570–78610). With a few exceptions, it is closely associated with carbonate and carbonate-related soils (limestone and dolomite) and outcrops at elevations between 4,000 and 6,600 feet (MacKay 2003).

The estimated population of Cushenbury milk-vetch when it was listed in 1994 was 5,000 to 10,000 individuals in fewer than 20 locations (USFWS 2009e). At the time the Recovery Plan was prepared in 1997, there were 33 known occurrences of Cushenbury milk-vetch (USFWS 1997b). At the time critical habitat was designated in 2002, there were 239 site-specific occurrences of Cushenbury milk-vetch (67 FR 78570–78610). However, in the 5-year review in 2009, the USFWS indicated that determining population trends was difficult because what constitutes site-specific occurrences has been subjectively defined and survey efforts have likely increased since its listing in 1992.

There are 20 occurrence records from the CNDDB for Cushenbury milk-vetch, 8 of which occur in the planning area (CDFW 2012b). There are three occurrences within the planning area that have been observed prior to 1990 or have an unknown observation date. These occur at the edge of the San Bernardino National Forest along the western boundary of the planning area (CDFW 2012b).

There are five occurrences within the planning area that have been observed since 1990. These occur at the edge of the San Bernardino National Forest along the western boundary of the planning area (CDFW 2012b). These all occur on BLM lands or lands designated BLM/private (CDFW 2012b).

The CNDDB identifies approximately 994 acres of element occurrences for this species within the planning area (Figure 3.4-9). The amount of acres associated with the element occurrences identified within each subregion is detailed above in Table 3.4-2. The 994 acres of potential occurrence for this species includes approximately 836 acres of Critical Habitat designated within the planning area. In addition, approximately 4,357 acres has been designated as the Carbonate Endemic Plants RNA ACEC within the Rattlesnake Canyon subregion to protect the plant (Figure 3.4-9).

Regulatory Status

Cushenbury milk-vetch is Federally listed as endangered but is not state listed. Critical habitat was designated on December 24, 2002 (67 FR 78570–78610). A recovery plan addresses this species, *San Bernardino Mountains Carbonate Plants Draft Recovery Plan* (USFWS 1997b). Cushenbury milk-vetch has a CRPR of 1B.1. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .1 are "seriously threatened in California, with over 80% of occurrences threatened/high degree and immediacy of threat" (CNPS 2011). The Cushenbury milk-vetch has a California Heritage Element Ranking of S1.1, indicating that it is "critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province" (CDFW 2012b).

Threats

The main threat to Cushenbury milk-vetch when it was Federally listed in 1994 was mining (USFWS 2009e). Other threats at the time included OHV use, a hydroelectric project, and a 115-kilovolt power line proposed for construction through Cushenbury Canyon (USFWS 2009e). About 97% of occupied habitat was under threat as a result of being under claim for mining, in private ownership and subject to mining, or as a result of other disturbances (USFWS 200e). Mining continues to be the primary threat to the species, but other threats include energy development and OHV use, which can result in direct ground disturbance and dust generation (USFWS 2009e). Further, dispersed target shooting, dispersed camping areas, and fuel wood collection can result in trampling of Cushenbury milk-vetch and impact its habitat through ground disturbance or dust creation (USFWS 2009e). Dust can reduce plant viability by altering soil chemistry and light penetration into the seed banks (USFWS 2009e). Fire suppression activities can result in ground disturbance through fire line construction, retardant and water drops, and establishment of fire camps (USFWS 2009e). Artificial lighting is also cited as a potential threat due to potential impacts on the behavior of pollinators or seed dispersers, or by altering photoperiod responses (USFWS 2009e).

The specific potential effects of climate change on Cushenbury milk-vetch are unknown, but if climate change caused a shift to higher elevations due to warmer and drier conditions, as has occurred with other plant species on the Santa Rosa Mountains of Southern California (Kelley and Goulden 2008), this endemic species could be concentrated in a smaller area and more vulnerable to extinction (USFWS 2009e).

Cushenbury Oxytheca *(Acanthoscyphus parishii var. goodmaniana)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.3, pp. 3-186) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Cushenbury oxytheca is a small annual plant approximately 0.5 to 3 decimeters (2 to 12 inches) in size that germinates in late fall, producing a relatively long taproot and basal rosette of leaves that remain until the inflorescence develops and flowers bloom from May to October (Sanders 2007). Observations suggest that it is pollinated by generalist insects, such as small flies and small beetles (S. Morita, cited in Sanders 2007). Little is known about seed bank, seedling establishment, or population structure (USFWS 2009f).

Other than Cushenbury oxytheca's association with carbonate soils, little is known of the life history and ecological relationships of this species. What is known of its life history is based on personal observations and museum records; little information has been published on the species (Sanders 2007). Gonella and Neel (1995) noted its presence/absence on plots in relation to Cushenbury buckwheat and Cushenbury milk-vetch; generally is does not co-occur with these two species.

Cushenbury oxytheca is an annual herb that generally grows on limestone or a mixture of limestone and dolomite soils. This species is most commonly found on talus slopes within pinyon and juniper woodland (Hickman 1996, p. 886; CNPS 2011; CDFW 2012b; USFWS 2009f). Slope where it occurs are usually steep and almost always on loose scree or talus (Sanders 2007). Habitat preferences include an open canopy structure with little or no accumulation of organic material at the soil surface.

Dominant species within pinyon and juniper woodland include single-leaf pinyon pine (*Pinus monophylla*), Utah juniper (*Juniperus osteosperma*), and more rarely California juniper and western juniper (*Juniperus occidentalis*). Understory species within pinyon and juniper woodland are more variable, but may include mountain-mahogany (*Cercocarpus ledifolius*), Mormon tea (*Ephedra viridis*), Mojave yucca (*Yucca schidigera*), Joshua tree, and brittlebush. Cushenbury oxtheca co-occurs with another carbonate endemic, Parish's daisy (*Erigeron parishii*). Its presence, however, appears to be negatively related to at least two other carbonate soils species that tend to occur on stable slopes. Gonella and Neel (1995) never found Cushenbury oxytheca on sample plots centered on Cushenbury milk-vetch (*Astragalus albens*), but it was fairly regularly found on plots without the milk-vetch. Cushenbury milk-vetch is a species typical of stable, often bedrock, slopes. Cushenbury oxytheca also appears to be negatively correlated with the presence of Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*). However, later surveys conducted by Rancho Santa Ana Botanic Garden for the USFS did find Cushenbury oxytheca growing with Cushenbury milk-vetch and Cushenbury buckwheat in some areas (V. Sosa, cited in Sanders 2007).

Population Status in the Planning Area

Cushenbury oxytheca occurs along the north foot of the San Bernardino Mountains in San Bernardino County on limestone and other carbonate talus slopes (CDFW 2012b; Sanders 2007). The CNDDB and the USFWS species database document 224 occurrences of Cushenbury

oxytheca. The majority of these populations occur within the San Bernardino National Forest. As reported by the USFWS in 2009, Cushenbury oxytheca occupies approximately the same range as it did at listing, which is approximately 500 acres (USFWS 2009f).

Cushenbury oxytheca is a small, annual species of xerophytic habitats that is subject to year-to-year fluctuations in population size as a result of differential rainfall (USFWS 2009f). Further, what is defined as an "occurrence" has been variable and subjective, making it difficult to detect changes in abundance (USFWS 2009f). Due to these factors, population status and trends are difficult to measure. It should also be noted that as increased survey efforts have occurred since the species original listing, there has also been an increase in the number of detected occurrences (USFWS 2009f).

Cushenbury oxytheca is primarily associated with a region of carbonate soils that occur along the northern edge of the San Bernardino Mountains (USFWS 2009f). It has been estimated by Gonella and Neel (1995) that the mining industry has impacted over 1,600 acres of potential habitat for a variety of carbonate-endemic plants; and because Cushenbury oxytheca was not described until 1980, the historical distribution of this species is unknown, except only by inference. One occurrence record with an unknown observation date is recorded in the planning area north of Big Bear City (CDFW 2012b).

Three known recent occurrences of Cushenbury oxytheca occur within the planning area, two north of Big Bear City and one near Butler Peak (CDFW 2012b). Two of these are within the Barstow RA on BLM lands and the other is in an area under private and/or BLM management (CDFW 2012b). Approximately 83 acres of designated Critical Habitat has been identified for this species within the Rattlesnake Canyon subregion (Figure 3.4-10) as detailed above in Table 3.4-2.

Regulatory Status

Cushenbury oxytheca is Federally listed as endangered but is not state listed. Critical habitat was designated on December 24, 2002 (67 FR 78570–78610). A recovery plan addresses this species: *San Bernardino Mountains Carbonate Plants Draft Recovery Plan* (USFWS 1997b). Cushenbury oxytheca has a CRPR of 1B.1. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .1 are "seriously threatened in California, with over 80% of occurrences threatened/high degree and immediacy of threat" (CNPS 2011). The Cushenbury oxytheca has a California Heritage Element Ranking of S1.1, indicating that it is "critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province" (CDFW 2012b).

Threats

According to a variety of sources, the primary threat to Cushenbury oxytheca is limestone mining (CDFW 2012b; Sanders 2007; Hickman 1996). Besides direct impacts, dust and artificial lighting can affect the species through dust impacts on soil chemistry and potential lighting impacts on seedbanks and pollinators and seed dispersers (USFWS 2009f). The USFWS (2009f) reports that 79% of known occupied habitat is currently subject to mining claims. Additional threats are non-native plant encroachment, power line maintenance, a hydroelectric project, and OHVs (CNPS 2011; USFWS 2009f).

Death Valley Sandpaper-plant *(Petalonyx thurberi ssp. gilmanii)*

Life History

Death Valley sandpaper-plant is a perennial subshrub in the loasa family (Loasaceae) that is native and endemic to California. Death Valley sandpaper-plant is typically less than 100 centimeters (39.4 inches) tall (Jepson Flora Project 2013) and flowers from May to June and September to November (Calflora 2013; Jepson Flora Project 2013).

Death Valley sandpaper-plant is found on dunes and in sandy washes (Jepson 2013); and within sagebrush scrub, Joshua tree woodlands, and pinyon-juniper woodlands in the vicinity of Panamint and Death Valleys. Substrates are sandy (CNPS 2013). This species is found in desert dunes and Mojavean desert scrub vegetation communities (CNPS 2013). Elevation range reported as 0 to 3,937 (Jepson 2013) and 853 to 4,741 feet amsl (CNPS 2013).

Population Status in the Planning Area

Native and endemic to California (Inyo and San Bernardino Counties) (CNPS 2013) and found in the North Mojave Desert (Jepson Flora Project 2013). Occurrence within the planning area is limited to Old Ibex Pass and potentially the west side of the Argus Mountains (CNPS 2013).

Known distribution data for Death Valley sandpaper-plant within the WEMO Planning area is depicted in Figure 3.4-11. Within the planning area, the CNDDB identifies approximately 1,425 acres of element occurrences for this species on BLM lands. The amount of acres identified within each subregion is detailed above in Table 3.4-2.

Regulatory Status

Death Valley sandpaper-plant is not a federal or state listed species (CNPS 2013), but is a BLM sensitive species. Death Valley sandpaper-plant has a CRPR of 1B.3 (CNPS 2013). CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .3 are "not very threatened in California, with less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known" (CNPS 2011).The Death Valley sandpaper-plant has a California Heritage Element Ranking of S2.3, indicating that it is "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" (CDFW 2012b).

Threats

Death Valley sandpaper-plant has no known threats (CNPS 2013).

Dedecker's Clover *(Trifolium dedeckerae also Trifolium kingii ssp. Dedeckerae)*

Life History

Dedecker's clover is a perennial herb in the legume family (Fabaceae) that is endemic to California. Flowering period is from May to July (Calflora 2013).

Dedecker's clover is found on alpine crests and in rock crevices (Jepson 2013). Substrates are granitic and rocky (CNPS 2013). This species is found in lower montane coniferous forest, pinyon

and juniper woodland, subalpine coniferous forest, and upper montane coniferous forest vegetation communities (CNPS 2013). Elevation range reported as 6,890 to 11,483 feet amsl (CNPS 2013).

Population Status in the Planning Area

Endemic to California (Inyo, Kern, Mono, and Tulare Counties) (CNPS 2013) and found in the southern high Sierra Nevada Mountains and to the east (Jepson Flora Project 2013). Known occurrences within the planning area include Coso Peak north of Ridgecrest and in the foothills adjacent to Sequoia NF from Ridgecrest north to Owens Lake (CNPS 2013).

Known distribution data for Dedecker's clover within the WEMO Planning area is depicted in Figure 3.4-12. Within the planning area, the CNDDB identifies approximately 29 acres of element occurrences for this species on BLM lands within the Sierra subregion (Table 3.4-2).

Regulatory Status

Dedecker's clover is not a federal or state listed species (CNPS 2013), but is a BLM sensitive species. Dedecker's clover has a CRPR of 1B.3 (CNPS 2013). CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .3 are "not very threatened in California, with less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known" (CNPS 2011). Dedecker's clover has a California Heritage Element Ranking of S2.3, indicating that it is "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" (CDFW 2012b).

Threats

Dedecker's clover is possibly threatened by mining and grazing (CNPS 2013).

Desert Cymopterus *(Cymopterus deserticola)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.6, pp. 3-187 and 3-188) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Desert cymopterus is in the carrot family (Apiaceae) (Jepson Flora Project 2011). Desert cymopterus is a tap-rooted perennial about 15 centimeters (5.9 inches) in height (Jepson Flora Project 2011). As a taprooted perennial, desert cymopterus does not appear to reproduce vegetatively, but rather reproduces via seeds. Seedling establishment has not been reported for this species. Establishment of new individuals in a population may be infrequent given that many reported desert cymopterus populations are highly dispersed and low density (NatureServe 2011).

Depending on the year, desert cymopterus flowers between early March and mid-May, and may not flower at all in unfavorable years. Poor seed production or seed survival may be a factor in infrequent establishment observed in field studies. Fruits of desert cymopterus are fairly large and do not seem well adapted for dispersal over long distances. Fruits generally seem to fall relatively close to the parent plant. However, the fruits have a marginal wing that may facilitate dispersal by wind. In addition, the fruits mature late in the season, typically after the end of the rainy season, so

they remain dry and light. Therefore, given that wind is relatively common in the open sandy habitats where this species is found, it could easily push the fruits along the soil surface, although the fruits probably don't become airborne (NatureServe 2011).

Because of the annual variability in rainfall, the underground parts of herbaceous desert perennials, including desert cymopterus, must be able to maintain the populations over time with frequent years of reproductive failure; in addition, they must be able to survive prolonged periods of low soil moisture and entire years without aboveground photosynthetic activity (NatureServe 2011). In dry years, desert cymopterus may not produce flowers or fruit and may even remain dormant underground during the usual growing season. In very wet years, however, they may produce flowers and fruits abundantly.

Population sizes appear to vary greatly from year to year, evidently in response to the amount and timing of winter and spring rainfall, making it difficult to determine population trends (NatureServe 2011).

Desert cymopterus grows in Joshua tree woodland, saltbush scrub, and Mojavean desert scrub communities on loose, sandy soils. The sandy soils required by this species occur on alluvial fans and basins, stabilized sand fields, and occasionally sandy slopes of desert dry lake basins (69 FR 64884–64889).

Population Status in the Planning Area

The historical distribution of desert cymopterus ranged from Apple Valley in San Bernardino County northward approximately 55 miles to the Cuddeback Lake basin in San Bernardino County, and westward approximately 45 miles to the Rogers and Buckhorn Dry Lake basins on Edwards Air Force Base in Kern and Los Angeles counties. However, the Apple Valley locations have presumably been extirpated resulting in a current distribution that includes the Rogers Dry Lake, Harper Dry Lake, Cuddeback Dry Lake, and Superior Dry Lake basins (69 FR 64884–64889). This species occurs at elevations from 2,000 to 3,000 feet, and possibly up to 5,000 feet (69 FR 64884–64889; CNPS 2011).

Abundance estimates for each population are usually less than 1,000 plants. However, estimating population size is difficult for a number of reasons. First, occurrences and population size fluctuate widely from year to year in response to climatic conditions, especially on the amount of rainfall. Desert cymopterus is dependent upon frequent spring rains. Furthermore, this species may remain dormant underground as a taproot and may not emerge when there is not enough rainfall, so the number of individuals underground could be greater than the number of individuals aboveground. Also, detectability many be low in years when plants only produce leaves and no inflorescence (NatureServe 2011).

The largest and most robust populations of desert cymopterus occur on Edwards Air Force Base. Seventeen population surveys were performed during a study in 1995, a good year for the species, and population sizes at each location ranged from 1 to 1,929 individuals. In total, 14,093 individuals were counted over an area of 1,465 acres (Tetra Tech 1995, cited in NatureServe 2011).

There are a total of 79 occurrences of desert cymopterus in the CNDDB (CDFW 2012b). There are three CNDDB occurrences from before 1990. Two of these are located in the vicinity of Leuhman Ridge and Kramer Hills near other occurrences of this species. One of these is possibly extirpated and located over 25 miles southeast of other occurrences east of Victorville.

There are 76 recent occurrences (status updated since 1990) that range from south of Buckhorn Lake along the Kern–Los Angeles County boundary north to the Black Hills and Fort Irwin. However, the majority of these occurrences are located on or near Edwards Air Force Base. Those on Edwards Air Force Base and the one occurrence at Fort Irwin are on lands owned by the DOD. Other occurrences on public land include those managed by the BLM in the general vicinity of North Edwards, Harper Lake, and Cuddeback Lake. The remaining nine recent records are either located on private land or the ownership is unknown (CDFW 2012b).

Known distribution data for Desert cymopterus within the WEMO Planning area is depicted in Figure 3.4-13. Within the planning area, the CNDDB identifies approximately 3,380 acres of element occurrences for this species on BLM lands. The amount of acres identified within each subregion is detailed above in Table 3.4-2.

Regulatory Status

Desert cymopterus (*Cymopterus deserticola*) is not Federally or state listed, but is a BLM sensitive species. Desert cymopterus has a CRPR of 1B.2. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "fairly threatened in California, with 20% to 80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). Desert cymopterus has a California Heritage Element Ranking of S2, indicating that it is "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" (CDFW 2012b).

Threats

Desert cymopterus is potentially threatened by habitat alteration and destruction resulting from military activities on Edwards Air Force Base, the expansion of Fort Irwin, oil and gas development, utility construction, renewable energy development, off-road vehicle use, sheep grazing, Land Tenure Adjustment, and urban development (69 FR 64884–64889; CNPS 2011). However, according to the proposed rule (69 FR 64884–64889), the magnitude and relative importance of most of these potential threats were unknown. Grazing by native and non-native herbivores—presumably including mammals, insects, and desert tortoise—is also a threat to this species. This may contribute to the low density, dispersed nature of the majority of reported desert cymopterus populations by limiting the plants' reproductive potential and reducing their vigor (Bagley 2006).

Hall's Daisy *(Erigeron aequifolius)*

Life History

Hall's daisy is perennial herb in the sunflower family (Asteraceae) that is endemic to California. Hall's daisy is typically 10 to 20 centimeters (3.9 to 7.9 inches) tall (Jepson Flora Project 2013). Flowering period is from June to August (Calflora 2013).

Hall's daisy is found on rock ledges and in crevices (Jepson Flora Project 2013). Substrates are granitic and rocky (CNPS 2013). This species is found in broadleafed upland forest, lower montane coniferous forest, pinyon and juniper woodland, and upper montane coniferous forest

vegetation communities. The elevation range of Hall's daisy is 4,921 to 8,005 feet amsl (CNPS 2013).

Population Status in the Planning Area

Hall's daisy is endemic to California (Fresno, Kern, and Tulare Counties) (CNPS 2013) and found in the southern high Sierra Nevada Mountains (Jepson Flora Project 2013). Known within the planning area from only Owens Peak west of Indian Wells, but is more broadly distributed throughout the southern Sierra Nevada Mountains to the north of the planning area (CNPS 2013).

Known distribution data for Hall's daisy within the WEMO Planning area is depicted in Figure 3.4-14. Within the planning area, the CNDDB identifies approximately 65 acres of element occurrences for this species on BLM lands within the Sierra subregion (Table 3.4-2).

Regulatory Status

Hall's daisy is not a federal or state listed species (CNPS 2013), but is a BLM sensitive species. Hall's daisy has a CRPR of 1B.3 (CNPS 2013). CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .3 are "not very threatened in California, with less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known" (CNPS 2011). Hall's daisy has a California Heritage Element Ranking of S2.3, indicating that it is "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" (CDFW 2012b).

Threats

Hall's daisy has no known threats (CNPS 2013).

Kelso Creek Monkeyflower *(Mimulus shevockii)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.7, pp. 3-188) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Kelso Creek monkeyflower is a tiny ephemeral winter annual herb in the lopseed family *(Phrymaceae)*, which was recently segregated from the figwort family (*Scrophulariaceae*) (Jepson Flora Project 2011; Beardsley and Olmstead 2002). Kelso Creek monkeyflower stands approximately 2 to 12 centimeters (0.8 to 4.7 inches) in height (Jepson Flora Project 2011; Elvin 2006). Kelso Creek monkeyflower blooms from March to May (CNPS 2011). It is unknown whether Kelso Creek monkeyflower is self-sterile or self-fertile (Elvin 2006). Given the relative size of its corolla, the nectar guide patterning, and corolla colors, Kelso Creek monkeyflower is probably outcrossing, and is probably pollinated by small solitary native bees; soft-wing flower beetles (*Trichochrous* sp.) have been observed visiting flowers (Fraga 2007).

It fruits from April to June (Fraga 2007). The fruit is a 0.25-inch capsule that contains more than 100 seeds and is dehiscent at the end and along both sutures (Heckard and Bacigalupi 1986). Although not directly observed, water is a likely seed dispersal mechanism since Kelso Creek monkeyflower occurs in washes (Elvin 2006).

The role of the seedbank is probably very important for the long-term survival of populations. It is known from similar annual *Mimulus* species that even in high rainfall years, some fraction of seed stays dormant and remains in the seed bank (Fraga 2007). Kelso Creek monkeyflower does not germinate at all in drought years. The amount and timing of rainfall affect the number of seeds that germinate, the timing of germination, and the size and longevity of desert annuals (Fraga 2007).

Although Kelso Creek monkeyflower is highly restricted in distribution, it appears to be common where it occurs in years of ample rain (Fraga 2007). It does not appear to have very exacting habitat requirements (Fraga 2007), although there appears to be hundreds of acres of apparently suitable habitat that are unoccupied (Heckard and Bacigalupi 1986). In wet years, Kelso Creek monkeyflower can form carpets on the desert floor, but can be difficult to locate in drier years (CPC 2011).

Kelso Creek monkeyflower hybridizes with its closest relative Tehachapi monkeyflower (*Mimulus androsaceus*) (Audubon 2011; CDFW 2012b). This suggests that the Kelso Creek monkeyflower may have evolved from Cyrus Canyon and spread southward to other locations in the Kern and Kelso Valleys (Audubon 2011).

Kelso Creek monkeyflower occurs predominately in loamy, coarse sands on alluvial fans, dry streamlets, or washes and granitic deposits within Joshua tree or California juniper xeric woodlands (59 FR 50540–50550; Heckard and Bacigalupi 1986). Substrates where Kelso Creek monkeyflower are found are generally granitic or metamorphic, and sandy or gravelly (CNPS 2011). However, the population near Cyrus Flat grows on finer soils developed from metasedimentary rocks (CDFW 2012b; Heckard and Bacigalupi 1986). The California Native Plant Society (CNPS) (2011) reports an elevation range for this species from 800 to 1,340 meters (2,625 to 4,396 feet). However, the CNDDB (CDFW 2012b) includes one occurrence at 4,500 feet. Species strongly associated with Kelso Creek monkeyflower include pygmy poppy (*Canbya candida)*, silver cholla (*Cylindropuntia echinocarpa)*, purple sage (*Salvia dorrii*), golden gilia (*Leptosiphon aureus*), Tehachapi monkeyflower, Fremont's monkeyflower (*Mimulus fremontii*), and white burrobrush (*Ambrosia salsola* var. *pentalepis*) (Heckard and Bacigalupi 1986).

Population Status in the Planning Area

The Kelso Creek monkeyflower is restricted to a very small range, approximately 20 square miles, in the southern Sierra Nevada Foothills and western edge of the Mojave Desert within the Kern River drainage (Jepson Flora Project 2011; Fraga 2007). All 11 known occurrences are in Kern County, the majority southwest of Lake Isabella in the Kelso Creek and Cortez Canyon area, all within an area 5 miles in diameter (CDFW 2012b). Two disjunct occurrences are located in the Cyrus Canyon and Cyrus Flat area northeast of Lake Isabella, over 12 miles northwest of the other populations (CDFW 2012a).

Kelso Creek monkeyflower has probably always been a rare species with a very narrow distribution (Elvin 2006). All known occurrences of Kelso Creek monkeyflower, except one whose exact location is unknown, were last surveyed systematically in 2008 (CPC 2011; CDFW 2012b). In some cases, timing was not optimal for detection of the species. Based on the population estimates made in 2008 and earlier estimates for those that were not visible in 2008, there were at least an estimated 53,400 Kelso Creek monkeyflower individuals throughout its range (CDFW 2012b). However, the population trend is unknown and because this plant is an annual, population sizes may vary greatly from year to year (CDFW 2012b; Fraga 2007). In addition, long-term trends

are difficult to assess since the species was not described until 1986. Plants were extirpated when Lake Isabella was created (CDFW 2012b).

Of the 11 total occurrences of Kelso Creek monkeyflower, 7 are in the planning area. Five of these are in the Ridgecrest RA on lands managed by the BLM (CDFW 2012b). Two are further south on the west and east sides of Kelso Valley and are located partially on BLM lands and partially on private land (CDFW 2012b; 59 FR 50540–50550). There are no historical records (i.e., before 1990) for this species within the planning area. All occurrences have been seen since 2008 and are presumed extant (CDFW 2012b).

Known distribution data for Kelso Creek monkeyflower within the WEMO Planning area is depicted in Figure 3.4-15. Within the planning area, the CNDDB identifies approximately 651 acres of element occurrences for this species on BLM lands within the Jawbone subregion (Table 3.4-2).

Regulatory Status

Kelso Creek monkeyflower (*Mimulus shevockii*) is not Federally or state listed, but is a BLM sensitive species. It was proposed for federal listing in 1994 (59 FR 50540–50550), but the proposal was withdrawn in 1998 when it was determined that the species was not threatened with extinction and therefore did not meet the definition of a threatened or endangered species (63 FR 49065–49075). Kelso Creek monkeyflower has a CRPR of 1B.2. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "fairly threatened in California, with 20% to 80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). The Kelso Creek monkeyflower has a California Heritage Element Ranking of S2, indicating that it is "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" (CDFW 2012b).

Threats

Threats to Kelso Creek monkeyflower have not changed since the 2005 WEMO Final EIS (BLM 2005). The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.7, pp. 3-188) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Kelso Creek monkeyflower is threatened by urbanization, OHV use, agricultural land conversion, road maintenance, cattle grazing, habitat loss from water inundation, fire suppression activities, and competition from non-native species (59 FR 50540–50550; CNPS 2011; NatureServe 2011). The extremely limited distribution of this plant puts it at risk of stochastic extinction events (Elvin 2006).

This species is primarily threatened by the current or potential destruction, modification, or curtailment of its habitat or range. Mobile home and subdivision development and associated grading threaten or have impacted 6 of the 11 occurrences (CDFW 2012b). Cattle grazing, introduction of non-native plant species, and conversion of habitat to orchards have begun to modify the landscape and threaten Kelso Creek monkeyflower occurrences and limited natural habitat (Elvin 2006; CDFW 2012b).

Of the seven occurrences within the planning area, three are entirely on BLM Ridgecrest RA lands, two are partially on BLM Ridgecrest RA lands and partially on private lands, and two are partially on BLM land outside of Ridgecrest RA and partially on private lands (CDFW 2012b). Although occurrences on BLM lands are provided some protection, there are still documented threats to these populations (Elvin 2006). All of the populations on private land are at risk of mobile home or subdivision development. Populations located on BLM lands adjacent to private property are also affected by this threat (Elvin 2006).

The effect that highway and road maintenance has on populations on or adjacent to private property is twofold: improved access has increased development and the additional traffic has created pressure to add or widen roads. At least one population has been bisected by road development. OHV use directly impacts or threatens approximately half of the known occurrences throughout its range (Elvin 2006). At least one population site has been highly disturbed, probably from uncontrolled overgrazing during drought (CDFW 2012b). Water developments and impoundments also potentially threaten this species (Elvin 2006).

Kern Buckwheat *(Eriogonum kennedyi var. pinicola)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.8, pp. 3-189) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Kern buckwheat is a perennial herb in the buckwheat family (Polygonaceae) (CNPS 2011; Reveal 2003). Kern buckwheat stands approximately 0.5 to 1.3 decimeters (2.0 to 5.1 inches) in height (Jepson Flora Project 2011). The species blooms from May to June (CNPS 2011; Jepson Flora Project 2011). The fruit ripens and is dispersed around July. Sexual reproduction in Kern buckwheat is probably both selfing and outcrossing (NatureServe 2011) considering the Federally listed variety *E. k.* var. *austromontanum* produces seeds by self-pollinating and insect-mediated outcrossing (71 FR 67712–67754).

Eriogonum species generally attract small generalist pollinators. Visitors, and potential pollinators, of the species *Eriogonum kennedyi* are small wasps, flies, bees, butterflies, and ants (O'Brien 1980). A small, silvery-white, iridescent butterfly has been observed pollinating this variety (Hare, pers. obs., cited in Sanders and Greene 2006). Kern buckwheat flowers change to red when pollinated suggesting that bees are important pollinators.

Though seed dispersal for this taxon has not been studied, birds may play a role in the dispersal of all *Eriogonum* seeds. Although there is little information available, wind, rain and streams may also act as dispersal agents (Sanders and Greene 2006).

Kern buckwheat appears to share many general ecological characteristics with other varieties of *E. kennedyi*. It occurs in open areas and prefers full sunlight, appearing to be intolerant of extensive shading. Although not well adapted to competing for light, it is very competitive on sites where tall and fast-growing species are excluded by moisture deficiencies, wind, and cold (Walter 1973, cited in Sanders and Greene 2006). Its compact cushion-like habit probably helps to reduce moisture loss (Walter 1973, cited in Sanders and Greene 2006). Therefore, this variety appears to favor sites where moisture stress is combined with high insulation (Sanders and Greene 2006).

Moisture rather than light is probably a controlling factor for Kern buckwheat. The foliage is densely covered with tomentum (wool) that substantially reduces the amount of light that strikes the leaf tissue. Although pubescence may affect photosynthesis, it also forms a layer of dead air at the leaf surface, which can reduce water loss from wind (Johnson 1975, cited in Sanders and Greene 2006).

Kern buckwheat is found in poorly draining depressions in white bentonite clay soils that are derived from volcanic ash (Sanders and Greene 2006). The depressions have pebbles, gravel, and rock cemented into the soil surface that form exposed open flats located on ridge tops and saddles between knolls (Sanders and Greene 2006).

This species occurs in chaparral and pinyon and juniper woodland (CDFW 2012b; CNPS 2011). Associated species include California sagebrush (*Artemisia californica*), Great Basin sagebrush (*Artemisia tridentata*), adobe yampah (*Perideridia pringlei*), fivetooth spineflower (*Chorizanthe watsonii*), and old fallen Jeffrey pines (CDFW 2012b; CCH 2011).

Population Status in the Planning Area

Kern buckwheat is endemic to Kern County and known from only three occurrences in the Sweet Ridge area of the southeastern Sierra Nevada Foothills in southeastern Kern County (CNPS 2011; CDFW 2012b; Jepson Flora Project 2011). Two of the three colonies at the type locality each consisted of more than 100 plants in 1992, 1993, and 1994. The remaining colony included over 100 plants in 1994 (CDFW 2012b). A collection in this area reported the population as abundant in 2010 (CCH 2011). The occurrence west of Middle Knob, was considered locally common in 1966 and included over 100 plants in 1993, 1995, and 1996. The occurrence on the west slope of Sweet Ridge included over 100 plants in 1994 (CDFW 2012b). There are also 1,000 individuals mapped at one site in the North Sky River project area that were recorded recently (Kern County 2011).

At one time up to six occurrences were identified as Kern buckwheat (Sanders and Greene 2006), but some were misidentified and only three have been verified as Kern buckwheat (CDFW 2012b). There were an estimated 400 plants based on observations in the early 1990s, but surveys in 1998 estimated the total population at approximately 10,000 individuals in four populations (Rutherford 1998, cited in Sanders and Greene 2006). It is unclear how these populations relate to the three currently known CNDDB occurrences. During these surveys it was noted that the populations contained a range of age classes and appeared reproductively healthy (Rutherford 1998, cited in Sanders and Greene 2006).

Kern buckwheat has been searched for extensively on Edwards Air Force Base since 1991 but has not been found there, and there is no suitable habitat. The Tehachapi So., Monolith, Mojave, Mojave NE, Cache Peak, Tehachapi NE, and portions of the Cross Mountain USGS quadrangles have also been searched. In addition, the Middle Knob/Pine Tree Canyon area has been searched by a BLM botanist but no Kern buckwheat has been found (NatureServe 2011). However, it is possible that additional populations could exist on unexplored ridgetops in the area since much of the occupied area is rugged and poorly explored (Sanders and Greene 2006).

All three occurrences for Kern buckwheat recorded in the CNDDB are in the planning area (CDFW 2012b). Two occurrences recorded in the CNDDB are located in the Ridgecrest RA, managed by the BLM (CDFW 2012b). The first, the type locality, occurs along trails on Sweet Ridge 2 miles south-southeast of Cache Peak and consists of three colonies. A 2010 collection was made at this type locality occurrence (CCH 2011). The second occurrence in the Ridgecrest RA, is

approximately 1 mile west of Middle Knob. The third CNDDB occurrence is on the west slope of Sweet Ridge, about 1.5 miles south of Cache Peak and is located on private land owned by a wind energy development company (CDFW 2012b).

Known distribution data for Kern buckwheat within the WEMO Planning area is depicted in Figure 3.4-16. Within the planning area, the CNDDB identifies approximately 23 acres of element occurrences for this species on BLM lands within the Middle Knob subregion (Table 3.4-2).

Regulatory Status

Kern buckwheat (*Eriogonum kennedyi* var. *pinicola*) is not Federally or state listed, but is a BLM sensitive species. Kern buckwheat has a CRPR of 1B.1. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .1 are "seriously threatened in California, with over 80% of occurrences threatened/high degree and immediacy of threat" (CNPS 2011). The Kern buckwheat has a California Heritage Element Ranking of S1.1, indicating that it is "critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province" (CDFW 2012b).

Threats

Current threats to Kern buckwheat are wind energy development on private land and vehicles (CNPS 2011). OHVs have already destroyed plants and habitat in one of the occurrences on BLM land. The highly restricted distribution and small number of remaining plants make this species vulnerable to stochastic extinction (Sanders and Greene 2006).

Approximately half of the 1-acre population on private land on Sweet Ridge was destroyed by the construction of wind energy facilities. Suitable habitat and plants were destroyed with the construction of access roads to newly subdivided lots and the construction of a ramp to a proposed campsite along the Pacific Crest Trail. Illegal grading has resulted in an erosion problem that threatens part of one population (Hare 1995 and Rutherford 1998, cited in Sanders and Greene 2006). Although cattle grazing is not known around the populations now, the area has been grazed in the past (Sanders and Greene 2006).

Based on observations, Kern buckwheat has been unable to recolonize disturbed areas (Hare 1995, cited in Sanders and Greene 2006).

Lane Mountain Milk-vetch *(Astragalus jaegerianus)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.9, pp. 3-189 and 3-190) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Lane Mountain milk-vetch is a member of the legume family (Fabaceae). It is a perennial herb approximately 3 to 7 decimeters (11.8 to 27.6 inches) in size (Charis 2002). It flowers in April and May and fruits ripen from the end of April to the end of May (Charis 2002). Work on pollinators indicates the species most likely to be effective pollinators include the megachilid bees *Anthidium dammersi*, *A. emarginatum*, and *Osmia latisculata* (Hopkins 2005; USFWS 2008c).

Greenhouse studies have shown higher rates of seed production in individuals that are self and cross-pollinated compared with unpollinated individuals, so pollination appears to be important for reproduction by this species (Rundel and others 2005, cited in USFWS 2008c). Genetic studies indicate that Lane Mountain milk-vetch is a facultative outcrosser (i.e., cross-pollinator) that relies more on outcrossing within dense populations than within low-density populations (Walker and Metcalf 2008). Dispersal mechanisms in Lane Mountain milk-vetch are unknown, although Charis (2002) suggests that dispersal may be by gravity, but notes that seeds and pods of other *Astragalus* species are fed upon by various birds, rabbits, and rodents.

Lane Mountain milk-vetch exhibits a relatively low recruitment rate; less than 2% of the 4,888 individuals detected by Charis (2002) were seedlings. Field and greenhouse studies by Rundel and others (2007) found that key factors for seedling growth and survival include the amount, frequency, and timing of precipitation. Generally, seed germination may be high under controlled greenhouse conditions, but much lower in the wild (Rundel and others 2007).

Community structure and the availability of suitable host plants for Lane Mountain milk-vetch appear to be important ecological factors. Charis (2002) found that Lane Mountain milk-vetch occurs in Mojave creosote scrub and Mojave mixed woody scrub with widely scattered Joshua trees. It does not occur in creosote scrub habitat dominated by creosote and white bursage. More than 99% of mature individuals were found on host plants, and the association with host plants appears to be non-random, with turpentinebroom accounting for about 20% of the host records, and white bursage, Mojave Desert California buckwheat, Cooper's goldenbush, Nevada jointfir, and "dead shrub" accounting for about 10% each (Charis 2002). Some common shrubs, such as creosote bush and white bursage, are used less frequently as host plants in relation to their abundance.

The growth patterns and distribution of Lane Mountain milk-vetch also appear to be related to the availability of moisture. Individuals annually go dormant during the hot, dry summer season and respond with vegetative growth to winter rains, or possibly also in response to temperature and photoperiod (Charis 2002). In very dry years, the species may have little vegetative growth, flowering, or fruiting (Bagley 1989, cited in Charis 2002). The greater presence of Lane Mountain milk-vetch on shallow ridges where soils are thinner and bedrock much closer to the surface, as opposed to deeper alluvial soils, suggests that occupied sites have a better moisture supply (Charis 2002).

Precipitation amounts, timing, and frequency are key factors in seedling growth and survival of Lane Mountain milk-vetch. In the wild, wet years are critical for seedling growth and survival, but invasive species may also proliferate in wet years, and may compete with and promote herbivory of milk-vetch (Rundel and others 2007). Even in a wet year (2004–2005), on a study plot, seedling survival to the following year was only 16% (8 of 49 individuals) (Rundel and others 2007). Rundel and others (2007) suggest that summer rains may be critical for seedling establishment and survival. More recent information indicates that drought over the last decade has had severe adverse effects on Lane Mountain milk-vetch populations, because of low seedling survival and depleted seed banks.

Lane Mountain milk-vetch occurs in Mojave creosote scrub and Mojave mixed woody scrub with widely scattered Joshua trees, and intergrades of the two communities that have relatively high shrub diversity (Charis 2002). The California Native Plant Society (CNPS 2011) also lists Joshua tree woodland as habitat occupied by the species, but the Charis (2002) study indicates that Joshua

trees are widely scattered in occupied habitat. The species does not occur in areas dominated by creosote bush and white bursage (Charis 2002). Occupied habitat is characterized by gentle slopes and low ridges 6.5 to 8.8 feet high, with shallow and lighter granitoid soils (Charis 2002). The species' distribution suggests that it may be responding to water supply (Charis 2002). It occurs at elevations of 3,100 to 4,200 feet above MSL (Charis 2002).

Lane Mountain milk-vetch typically occurs in patchy (i.e., clustered) distributions, but also occurs less commonly in distributions of a few scattered individuals over a broader area. It almost always is associated with a host2 shrub, which the Lane Mountain milk-vetch uses as a trellis. Of 4,888 mature plants recorded by Charis (2002), less than 0.5% were found growing alone. The six most frequent host plants accounted for approximately 75% of the records, with turpentinebroom (*Thamnosma montana*) accounting for about 20% of the host records, and white bursage, Eastern Mojave buckwheat (*Eriogonum fasciculatum* ssp. *polifolium*), Cooper's goldenbush (*Ericameria cooperi*), Nevada jointfir (*Ephedra nevadensis*), and "dead shrub" accounting for about 10% each (Charis 2002). Host-specific selection was apparent because some relatively frequent shrubs had extremely low frequencies as hosts, including creosote bush, littleleaf rhatany (*Krameria erecta*), Johnson's indigo bush (*Psorothamnus arborescens* var. *minutifolius*), desert peppergrass (*Lepidium fremontii*), and peach thorn (*Lycium cooperi*).

Population Status in the Planning Area

All known locations of Lane Mountain milk-vetch are within the planning area and are composed of four discrete population locales north of Barstow, covering about 21,000 acres: NASA Goldstone, Brinkman Wash/Montana Mine, Paradise Valley, and Coolgardie Mesa (Charis 2002).

The rangewide population status information cited by USFWS (2008c) in the 5-year review is based on the Charis (2002) surveys conducted in 2001, as summarized in Table 1 of the 5-year review. The number of documented plants in 2001 was 5,723 individuals over approximately 21,350 acres of occupied habitat among the four mapped populations. Charis (2002) also provided estimates for the population because transect survey coverage of potential was not 100% (see discussion in Data Characterization section below). The population estimate incorporated a "percentage observability" factor assumption, ranging from 10% to 100%, and an assumption of average plant density for unsurveyed areas based on transect count data. Charis (2002) estimated a population of approximately 14,120 individuals based on 100% observability to 141,200 individuals based on 10% observability; clearly, the population estimate is highly sensitive to the assumed observability.

Recent data indicate a declining population of Lane Mountain milk-vetch related to the prolonged drought from 1999 to 2009. There has been about an 88% reduction in population size, as measured by aboveground individuals, on plots continuously monitored since 1999, mainly as a result of degradation and mortality of host plants (Huggins and others 2010). However, the most recent data reported in the May 2011 critical habitat final rule indicate that while the current number of individual plants is smaller than in 2005, the number of individual plants on the study plots has increased from four plants in 2007 to 154 plants in 2010 (76 FR 29108–29129). Further, the mortality rate of individuals has decreased over the last 2 years (76 FR 29108–29129).

The relationship between population and drought and wet cycles is still not well understood. Plants can be dormant for several years, resulting in observations of fewer plants, but then reappear in a year with more favorable conditions, so the "population" has not really declined.

USFWS (2008c) reported that the U.S. Army has also been monitoring the four populations, but these data were not available for the 5-year review. However, because drought has had such a dramatic effect on this narrow endemic species on the monitored plots and it has fairly restricted habitat associations (i.e., it probably does not occur in heterogeneous microhabitats), it is reasonable to assume that other populations of Lane Mountain milk-vetch have suffered similar drought-related declines and that the current range-wide population is much smaller than documented in 2001 by Charis (2002).

Historically (i.e., prior to 1990), Lane Mountain milk-vetch was known from the Brinkman Wash, Coolgardie Mesa, and Paradise Valley areas; and as late as 1999, these were the only documented populations (Charis 2002).

The 2001 survey work by Charis (2002) confirmed the populations at the three previously known locations and found a new population—NASA Goldstone—which extended the species' range by about 1.4 miles north and 2.6 miles east. The Coolgardie Mesa population comprises approximately 9,775 acres in the Mud Hills and Lane Mountain USGS quadrangles (see previous note about the genetic distinction within the Coolgardie Mesa population). The Paradise Valley population comprises approximately 4,794 acres in the Williams Well quadrangle. Both the Brinkman Wash and NASA Goldstone populations are in the Paradise Range quadrangle, with Brinkman Wash comprising approximately 5,497 acres and NASA Goldstone comprising about 1,283 acres (Charis 2002). The CNDDB includes 22 occurrences in this area (CDFW 2012b).

Within the planning area, the CNDDB identifies approximately 2,004 acres of element occurrences for this species on BLM lands within the Coolgardie subregion planning area (Table 3.4-2 and Figure 3.4-17). In addition, approximately 9,888acres of Critical Habitat has been designated within the Coolgardie subregion (Table 3.4-2 and Figure 3.4-17).

Regulatory Status

Lane Mountain milk-vetch (*Astragalus jaegerianus*) is Federally listed as endangered but is not state listed. The final rule for critical habitat for Lane Mountain milk-vetch was published May 19, 2011 (76 FR 29108–29129). Lane Mountain milk-vetch has a CRPR of 1B.1. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .1 are "seriously threatened in California, with over 80% of occurrences threatened/high degree and immediacy of threat" (CNPS 2011). The Lane Mountain milk-vetch has a California Heritage Element Ranking of S1.1, indicating that it is "critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province" (CDFW 2012b).

Threats

The main anthropogenic threats to Lane Mountain milk-vetch are surface mining, OHV recreation, and military training activities (USFWS 2008c). The Coolgardie Mesa area has high mineral potential, with several small recreational mining operations that may have cumulative effects (USFWS 2008c). Unauthorized OHV use increased in one portion of the Coolgardie Mesa site in the 2000s, creating a barren area of approximately 20 acres where the species formerly occurred (USFWS 2008c). In the critical habitat rule, the USFWS also acknowledged the potential effects of climate change on Lane Mountain milk-vetch, but there is no information specific to this species indicating what areas may become important in the future in response to climate change (76 FR

29108–29129). The USFWS (2008c) also identifies two other threats to Lane Mountain milk-vetch: wildfires and nonnative species.

Little San Bernardino Mountains Linanthus *(Linanthus maculates)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.10, pp. 3-190) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Little San Bernardino Mountains linanthus is an annual herb in the phlox (*Polemoniaceae*) family. It is a diminutive, densely hairy, alternate-leaved annual species approximately 1 to 3 centimeters (0.4 to 1.2 inches) in height (Jepson Flora Project 2011; Patterson 1989). It reproduces via seed, but otherwise its ecology has not been well studied. As such, little is known about the plant's pollinator relationships, seed viability, or seed germination (Patterson 1989; Sanders 2006; CVAG 2006). The flower is white with a vermilion spot on each spreading lobe on most individuals, suggesting that the species is almost certainly insect-pollinated (Munz 1974; Sanders 2006). The flowering time for this species is March through May (CNPS 2011). A review of the collections shows that approximately one-third of the specimens were collected in March, two-thirds in April, and only a few in February and May (CCH 2011).

Little San Bernardino Mountains linanthus grows on loose, well-aerated, open sandy benches and flats on the margins of desert washes (Sanders 2006; Jepson Flora Project 2011). This plant is always found in open areas that receive no shade from nearby shrubs and is associated with other small annual species, such as sigmoid threadplant (*Nemacladus sigmoideus*), blushing threadplant (*N. rubescens*), evening primrose (*Camissonia pallida*), common loeflingia (*Loeflingia squarrosa*), Arizona nest straw (*Filago arizonica*), and Wallace's woolly sunflower (*Eriophyllum wallacei*) (Sanders 2006).

Population Status in the Planning Area

Little San Bernardino Mountains linanthus is endemic to Southern California with occurrences in San Bernardino, Riverside, and Imperial counties (CNPS 2011). This species' range is restricted to the mouth of Dry Morongo Canyon near the City of Desert Hot Springs and the north side of Joshua Tree National Park south of SR 62 in the Little San Bernardino Mountains, and from Whitewater Canyon in the eastern San Bernardino Mountains to Palm Springs. Virtually all of the Palm Springs populations are considered extirpated due to development (Sanders 2006). Additional areas where the species has been recently documented include the mouth of Rattlesnake Canyon and near the Two Hole Spring area on the northern side of the San Bernardino Mountains, and just east of the San Diego County line near Dos Cabezas Spring in Imperial County (CCH 2011; Sanders 2006).

There are four major populations of Little San Bernardino Mountains linanthus (Sanders 2006; CCH 2011). All populations are extant except for the Palm Springs populations, which were located in the center of what is now Palm Springs and along I-10 north of the city proper (Sanders 2006; CCH 2011). Because of the isolated nature of desert wash systems, the major populations are separated into smaller "population units" associated with individual washes (Sanders 2006). Two new populations have been discovered in the last two decades: a population in the Rattlesnake

Canyon and Two Hole Spring areas on the northern side of the San Bernardino Mountains and an Imperial County population located just east of the San Diego County line near Dos Cabezas Spring (CDFW 2012b; CCH 2011).

There has been a minimal effort to estimate the number of individuals in each population. Sanders' efforts to estimate population sizes for the species included personal communication with G. Helmkamp regarding his collections, resulting in the following estimates: about 10,000 individuals north of Indian Avenue near the mouth of Big Morongo Canyon (Riverside County) in 1996; widespread plants observed in flat areas between Joshua Tree and Indian Cove in 1995; a few hundred individuals in the Dry Morongo Canyon (San Bernardino County) area in 1992 and 1995 and six in 1996; and 100 plants in an area south of Joshua Tree near SR 62 in 1986, which were "reduced markedly" in 1987, 150–200 plants in 1988, 25–30 plants in 1990, and 1,000 plants in 1993 (Patterson 1989; Sanders 2006; CDFW 2012b).

There are several gaps in the early records for this species, including a 17-year gap from 1907 to 1924 (Sanders 2006; CDFW 2012b; CCH 2011). Only six collections were made between 1924 and 1960 and only two collections were made in the 1970s. Since the end of the 1970s, the number of collections has increased, probably because of the increase in desert botanical work and Patterson's 1989 description of habitat for the species (Sanders 2006).

Population trends are difficult to estimate for the species because population size in a given year appears to depend on environmental conditions and fluctuates greatly from year to year.

The CNDDB records 27 occurrences for this species (CDFW 2012b). Of the 15 occurrences documented in the CNDDB within the planning area, one population east of Yucca Valley and west of Joshua Tree in San Bernardino County, California, is considered historical since the plants have not been observed since 1937. However, this occurrence is still presumed to be extant (CDFW 2012b).

The recent occurrences of Little San Bernardino Mountains linanthus occur along the western boundary of the planning area in San Bernardino and Riverside counties (CDFW 2012b). Seven of the occurrences are at least partially located in Joshua Tree National Park. Two are located on BLM land just below the mouth of Rattlesnake Canyon in southeastern Lucerne Valley and east of Two Hole Spring at the northeastern base of the San Bernardino Mountains (CDFW 2012b). One occurs on private land south of the town of Joshua Tree. The remaining three have unknown ownership and occur on a wash north of Joshua Tree National Park, south of SR 62 east of Joshua Tree, and at Pipes Canyon north of Yucca Valley (CDFW 2012b).

Known distribution data for Little San Bernardino Mountains linanthus within the WEMO Planning area is depicted in Figure 3.4-18. Within the planning area, the CNDDB identifies approximately 297 acres of element occurrences for this species on BLM lands. The amount of acres identified within each subregion is detailed above in Table 3.4-2.

Regulatory Status

Little San Bernardino Mountains linanthus (*Linanthus maculatus*) is not Federally or state listed and has no other federal designations (e.g., BLM or USFS sensitive). Little San Bernardino Mountains linanthus has a CRPR of 1B.2. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "fairly threatened in California, with 20% to 80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). Little San Bernardino Mountains linanthus has a

California Heritage Element Ranking of S2, indicating that it is "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" (CDFW 2012b).

Threats

Little San Bernardino Mountains linanthus is potentially threatened by habitat disturbance and destruction due to urban expansion, OHV use, flood control activities, illegal dumping, and an increase in invasive non-native species (CNPS 2011). The largest populations are adjacent to communities, such as Yucca Valley, Joshua Tree, and Desert Hot Springs, that have grown substantially in the last two decades. Additional development pressures associated with the expansion of these communities could impact core populations (Sanders 2006).

Flood control maintenance activities pose a specific threat to the species as these activities change the hydrological regime and sediment-carrying capacity of flows within wash systems. In particular, flood control activities pose a substantial threat to populations of Little San Bernardino Mountains linanthus in the Whitewater Canyon, Mission Creek, and Dry Morongo Canyon Wash areas (CVAG 2006).

OHV use is a threat to Little San Bernardino Mountains linanthus because the species grows only in desert wash areas, which are favored by OHV users because they are so sparsely vegetated (Sanders 2006).

Mojave Monkeyflower *(Mimulus mohavensis)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.11, pp. 3-190 and 3-191) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Most members of the lopseed family are insect pollinated (Beardsley and Olmstead 2002); and given the showy flowers, Mojave monkeyflower pollinators are probably Hymenoptera (bees, wasps, ants, and sawflies) or Lepidoptera (butterflies and moths). MacKay (2006) hypothesized that the white margin of the corolla reflects ultraviolet light, and the maroon veins extending into this margin act as nectar guides to facilitate pollination.

Small seeds and an annual habit suggest that dispersal of Mojave monkey flower is mostly abiotic (MacKay 2006; NatureServe 2011). For populations located on rocky slopes above washes, it is probable that gravity carries seeds down into the washes and intermittent water flow may carry seeds further down washes. Although biotic vectors of seed transport are unknown, granivorous ants or rodents may transport seeds over short distances and birds may transport seeds longer distances (MacKay 2006).

Although suitable habitat for this species appears to be fairly abundant, it is quite restricted geographically. Population sizes fluctuate substantially from year to year, probably in response to the amount and timing of precipitation; as an annual, germination and establishment are dependent on the timing and amount of spring rains (MacKay 2006; NatureServe 2011). Unknown unusual

germination and establishment requirements may account for the considerable variability in population sizes from year to year (MacKay 2006).

This species occurs in Joshua tree woodland and Mojavean desert scrub, specifically creosote bush scrub (MacKay 2006; CNPS 2011). Mojave monkeyflower is associated with the following species or genera, among others: creosote bush, desert senna (*Senna armata*), white burrobrush, ratany (*Krameria erecta* and *K. grayi*), chollas (*Cylindropuntia* spp.), white bursage, prairie-clovers (*Dalea* spp.), catclaw, Bigelow's monkeyflower (*Mimulus bigelovii*), desert bells (*Phacelia campanularia*), desert fivespot (*Eremalche rotundifolia*), spiny hopsage (*Grayia spinosa*), and desert trumpet (*Eriogonum inflatum* var. *inflatum*) (MacKay 2006; CDFW 2012b).

Mojave monkeyflower commonly occurs in areas that are not subject to regular water flow (MacKay 2006). These areas include the gravelly banks of desert washes with granitic soils and rocky slopes above washes, as well as the sandy openings of creosote bush scrub (MacKay 2006).

Population Status in the Planning Area

This species occurs in the Mojave Desert in west-central San Bernardino County (Jepson Flora Project 2011). The greatest population densities occur south of Daggett and Barstow (MacKay 2006). However, the majority of the historical occurrences in the Barstow area have either been extirpated or impacted (CNPS 2011). The elevation range of this species extends from 600 to 1,200 meters (1,969 to 3,937 feet) (CNPS 2011).

Population trends for Mojave monkeyflower are unknown but are thought to be stable to declining (NatureServe 2011). One CNDDB occurrence has been possibly extirpated, and the status of 9 of the 56 total CNDDB occurrences of Mojave monkeyflower in the planning area has not been updated since 1990 (CDFW 2012b; MacKay 2006).

There are a total of 56 CNDDB occurrences for Mojave monkeyflower in the planning area. Of these, 9 occurrences have been recorded prior to 1990, are not dated, or are considered possibly extirpated (CDFW 2012b). These records extend from the area around Barstow southeast to the area around the Newberry Mountains, and one occurrence much farther south near Old Woman Springs.

Of the 56 total CNDDB occurrences in the planning area, 47 have been recorded in the CNDDB since 1990 and are presumed extant. One of the major populations of Mojave monkeyflower recorded in the CNDDB since 1990 that is presumed extant is located southeast of Barstow to Ord Mountain. A second concentration of occurrences is located northeast of Adelanto and extends to Helendale. Two isolated occurrences occur between these two major populations, at Hodge and just south of the Black Mountains summit. Of the current occurrences, approximately 89% (42 occurrences) are on lands managed by the BLM, and the remaining 11% (5 occurrences) are on lands that are privately owned or whose ownership is unknown (CDFW 2012b).

Known distribution data for Mojave monkeyflower within the WEMO Planning area is depicted in Figure 3.4-19. Within the planning area, the CNDDB identifies approximately 2,304 acres of element occurrences for this species on BLM lands. The amount of acres identified within each subregion is detailed above in Table 3.4-2.

Regulatory Status

Mojave monkeyflower is not Federally or state listed, but is a BLM sensitive species. Mojave monkeyflower has a CRPR of 1B.2. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "fairly endangered in California, with 20%–80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). Mojave monkeyflower has a California Heritage Element Ranking of S2, indicating that it is considered imperiled in California (CDFW 2012b).

Threats

Threats to Mojave monkeyflower include development, mining, non-native plants, solar and wind energy projects, grazing, vehicles, and road development (CNPS 2011; NatureServe 2011; MacKay 2006). Additional potential threats include pipeline installation and quarries and test pits adjacent to populations (MacKay 2006). Mojave monkeyflower is also under threat by the potential for the BLM to convert land occupied by this species to private lands, which could then be developed (MacKay 2006; CDFW 2012b). The area under consideration for disposal or land exchange is located between Barstow and Victorville (CDFW 2012b).

Because population sizes fluctuate considerably annually in response to environmental conditions, Mojave monkeyflower is susceptible to depletion of the seed bank after a series of drought years. In addition, small population sizes increase the risk of inbreeding, which may result in reduced seed set or reduced seed viability (MacKay 2006).

Mojave Tarplant *(Deinandra mohavensis)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.12, pp. 3-191) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Mojave tarplant is in the sunflower family (Asteraceae) (Jepson Flora Project 2011). The plant was thought to be extinct at one time but was rediscovered in 1994 by A. Sanders in the San Jacinto Mountains, in Riverside County (Sanders and others 1997). Mojave tarplant is an annual plant approximately 1 to 10 decimeters (3.9 to 39 inches) in height. Mojave tarplant and the closely related Red Rock tarplant (*Deinandra arida*) are the only two self-compatible species in the genus *Deinandra* (Tanowitz 1982; Baldwin pers. comm. 1997, cited in Sanders 2006b). This may be the result of genetic drift and/or the relative isolation of these two species, which occur on the edge of the desert as local populations (Sanders 2006b). Pollination studies have not been conducted for this Mojave tarplant; however, Faull (1987) has observed small beetles and honey bees visiting Red Rock tarplant flowers.

Mojave tarplant is known to reproduce easily in cultivation (B. Baldwin, pers. comm. 1998, cited in Sanders 2006a) and at a botanical garden has been known to escape into disturbed places (S. Boyd, pers. comm. 1998, cited in Sanders 2006a).

Mojave tarplant blooms from June through January (CNPS 2011). Flowering peaks between August and October. Once flowering has begun, it continues until the plants begin to senesce. Fruit maturity and dispersal are continuous as well. Seed dispersal vectors have not been reported for

this species; however, the seeds are relatively heavy and may just fall to the ground around the source plant. The seeds are not armed with any obvious mechanisms, such as hooks or wings, for long-distance dispersal (Sanders 2006a). Baldwin (pers. comm., cited in Sanders 2006b) reports that *Hemizonia* (now *Deinandra*) ray achenes maintain some degree of dormancy while the disk achenes freely germinate.

Mojave tarplant is associated with seasonally saturated clay or silty soils on gentle slopes or low gradient streams, with few shrubs and trees. These saturated areas are typically dry at the surface but provide a substantial water source at depth through summer (Sanders and others 1997). This species has a discontinuous and possibly relictual distribution (Sanders 2006a), and little is known of its life history and ecological relationships.

The Mojave tarplant occurs in open moist sites in arid regions near the margins of the desert, within chaparral, coastal scrub, and riparian scrub (CNPS 2011; Sanders 2006a). Plants are typically observed at seeps and along grassy swales and intermittent creeks. The most suitable habitat occurs in mountainous areas within microhabitats of low gradient streams and on gentle slopes with few shrubs and trees. This species is associated with clay or silty soils that are saturated with water early in the year. Mojave tarplant prefers areas that are dry at the surface but which have a substantial water source at depth through summer. Dwarfed plants occasionally are found in drier sites near occupied moist areas (Sanders and others 1997). This cycle of early saturation with later desiccation may reduce competition from other plant species; dryness during drought years may further reduce competition (Sanders 2006a).

At the type locality, Mojave tarplant was known to occur along a sandy intermittent creek; however, this habitat is now believed to be atypical and not sufficient to maintain a permanent population. Sanders and others (1997) does note that there are some occurrences of Mojave tarplant associated with sand, where the sand is adjacent to more typical habitat.

Population Status in the Planning Area

Mojave tarplant is known in Kern, Riverside, and San Diego counties (believed extirpated from San Bernardino County) (CDFW 2012b). This species occurs at elevations of 640–1,600 meters (1,900–4,800 feet) (CNPS 2011). The distribution is discontinuous and possibly relictual.

Because this species was only recently rediscovered (in 1994) there is little information available on population trends. Of the eight occurrences in the planning area, four are known from BLM land, two are on private land, and ownership is unknown for two of the occurrences. The occurrence on private land near Cutterbank Spring numbered 14 individuals in 2003. Approximately 15,000 plants were observed at the other occurrence on private land located at the south end of Kelso Valley in 2010. Many more plants were observed in 2011 including an additional 1,500 plants in the northeastern portion of the occurrence (CDFW 2012b). Of the two occurrences for which ownership is unknown, one numbered in the thousands in 1998 and the other numbered 109 individuals in 2003. Of the four occurrences on BLM land, one numbered 50,000 in 2003 (with 30 rosettes observed very early in the year in 2004), one numbered in the several hundreds in 2008, and one numbered 5,000 in 1998 (and was locally common in 2001 and numbered 3,000 in 2003). Approximately 50,000 plants were observed in 2003 at the last occurrence on BLM land at Cutterbank Spring; 30 plants were observed in 2004 in their rosette form in an early season survey, and plants were "abundant around the springs and in the surrounding drainage channels" in 2010 (CDFW 2012b). Overall, there are 69 occurrences in

Kern, Riverside, and San Diego counties (CDFW 2012b) and most of these appear to have number of individuals estimated once, making it difficult to discern a population trend.

There are a total of 69 occurrences in the CNDDB, eight of which occur in the planning area (CDFW 2012b). This species was not known to occur in the planning area prior to 1990.

Within the planning area, Mojave tarplant is known from the desert slope of the southern Sierra Nevada Mountains in Kern County (Sanders 2006a). There are eight occurrences in the planning area, all within Kern County. Four of the occurrences in the planning area are known from lands managed by the BLM; two are on private land, and ownership is unknown for two of the occurrences. The eight occurrences are located west of SR 14 and east of the Sequoia National Forest, north of I-40: near Cutterbank Spring, in Jawbone Canyon, near Short Canyon, in lower Esperanza Canyon, in lower Water Canyon, and in the vicinity of Cross Mountain (CDFW 2012b). Mojave tarplant may also occur at Red Rock Canyon in Red Rock Canyon State Park in Kern County (Faull, pers. comm. 1998, cited in Sanders 2006a).

Known distribution data for Mojave tarplant within the WEMO Planning area is depicted in Figure 3.4-20. Within the planning area, the CNDDB identifies approximately 81 acres of element occurrences for this species on BLM lands. The amount of acres identified within each subregion is detailed above in Table 3.4-2.

Regulatory Status

Mojave tarplant (*Deinandra mohavensis*) is not Federally listed, but is California endangered and a BLM sensitive species. Mojave tarplant has a CRPR of 1B.3. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .3 are "not very threatened in California, with less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known" (CNPS 2011). Mojave tarplant has a California Heritage Element Ranking of S2, indicating that it is considered imperiled in California (CDFW 2012b).

Threats

Mojave tarplant is threatened by grazing, recreational activities, development, hydrological alterations, road maintenance, and vehicles (CNPS 2011). The type locality was modified by construction of the Mojave River Forks Dam. Within the planning area cattle grazing occurs at some of the Mojave tarplant occupied areas, and in some areas is locally intense and may pose a threat. However, plants of the genus *Deinandra* may not be palatable to cattle, so grazing may not be a major threat. Trampling by cattle may be a threat around limited watering sources in dry areas (Sanders 2006a).

Nine Mile Canyon Phacelia *(Phacelia novenmillensis)*

Life History

Nine Mile Canyon phacelia is an annual herb in the borage or waterleaf family (Boraginaceae) that is endemic to California. Nine Mile Canyon phacelia is typically 5 to 10 centimeters (2.0 to 3.9 inches) tall (Jepson Flora Project 2013). Flowering period is from May to June (Calflora 2013) or February to June (CNPS 2013).

Nine Mile Canyon phacelia is found in open foothills. Substrates are sandy to gravelly (Jepson Flora Project 2013). This species is found in broadleafed upland forest, Cismontane woodland, pinyon and juniper woodland, and upper montane coniferous forest vegetation communities (CNPS 2013). Elevation range reported as 5,397 to 8,661 feet amsl (CNPS 2013).

Population Status in the Planning Area

Endemic to California (Inyo, Kern, and Tulare Counties) (CNPS 2013) and found on the east slope of the southern high Sierra Nevada Mountains and on the west edge of the Mojave Desert (Jepson Flora Project 2013). Known occurrences within the Project Area are concentrated in the Sierra Nevada foothills west of Indian Wells including Owens Peak, Ninemile Canyon, Lamont Peak, and Walker Pass (CNPS 2013).

Known distribution data for Nine Mile Canyon phacelia within the WEMO Planning area is depicted in Figure 3.4-21. Within the planning area, the CNDDB identifies approximately 246 acres of element occurrences for this species on BLM lands within the Sierra subregion (Table 3.4-2).

Regulatory Status

Nine Mile Canyon phacelia is not a federal or state listed species (CNPS 2013), but is a BLM sensitive species. Nine Mile Canyon phacelia has a CRPR of 1B.2 (CNPS 2013). CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "fairly endangered in California, with 20%–80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). Nine Mile Canyon phacelia has a California Heritage Element Ranking of S2.2, indicating that it is considered imperiled in California (CDFW 2012b).

Threats

Nine Mile Canyon phacelia is threatened by grazing and recreation (CNPS 2013).

Owens Peak Lomatium *(Lomatium shevockii)*

Life History

Owens Peak lomatium is a perennial herb in the carrot family (Apiaceae) that is endemic to California. Owens Peak lomatium is typically 4 to 12 centimeters (1.6 to 4.7 inches) tall with an elongated taproot (Jepson Flora Project 2013). Flowering period is from April to May (Calflora 2013).

Owens Peak lomatium is found on rocky slopes and talus. Substrates are rocky (Jepson Flora Project 2013). This species is found in lower montane coniferous forest and upper montane coniferous forest vegetation communities (CNPS 2013). Elevation range is 5,807 to 7,218 feet amsl (CNPS 2013) or 7,218 to 8,202 feet amsl (Jepson Flora Project 2013).

Population Status in the Planning Area

Endemic to California (Kern County) (CNPS 2013) and found in the southern high Sierra Nevada Mountains (Jepson Flora Project 2013). Occurrences known within the planning area from Owens Peak and Mt. Jenkins west of Indian Wells (CNPS 2013).

Known distribution data for Owens Peak lomatium within the WEMO Planning area is depicted in Figure 3.4-22. Within the planning area, the CNDDB identifies approximately 79 acres of element occurrences for this species on BLM lands within the Sierra subregion (Table 3.4-2).

Regulatory Status

Owens Peak lomatium is not a federal or state listed species (CNPS 2013), but is a BLM sensitive species. Owens Peak lomatium has a CRPR of 1B.3 (CNPS 2013). CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .3 are "not very threatened in California, with less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known" (CNPS 2011). Owens Peak lomatium has a California Heritage Element Ranking of S2, indicating that it is considered imperiled in California (CDFW 2012b).

Threats

Threats to Owens Peak lomatium are not described (CNPS 2013).

Parish's Daisy *(Erigeron parishii)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.3, pp. 3-186) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Parish's daisy is in the Asteraceae family (IPNI 2011). It is an herbaceous, long-lived perennial subshrub approximately 7 to 30 centimeters (3 to 12 inches) in height from its taproot (Mistretta and White 2001; Sanders 2006). It flowers from May through August (CNPS 2011), peaking mid-May to mid-June (Sanders 2006). Based on the conspicuous flowers, pollinators are probably insects and likely include bees, butterflies, and other known pollinators of similar and related species (Sanders 2006). Parish's daisy produces plumed achenes adapted for wind dispersal (Mistretta and White 2001) and does not appear to have a seed dormancy mechanism (Mistretta 1994). Based on observations of seedlings at several sites (Krantz 1979), reproduction is probably primarily by seed rather than vegetatively by rhizomes or stolons. A recent study by Neel and Ellstrand (2001) found no evidence of vegetative reproduction, concluding that the species probably primarily reproduces sexually through outcrossing.

Recent research on allozyme diversity showed that genetic diversity was high (compared to many narrowly endemic plant taxa) and populations were only moderately differentiated, suggesting that gene flow among populations is still high and any recent fragmentation has not yet affected genetic diversity (Neel and Ellstrand 2001).

Parish's daisy occurs in Mojavean desert scrub and pinyon and juniper woodlands (CNPS 2011) and is largely restricted to loose, carbonate alluvium, although it is occasionally found on other rock types (Sanders 2006). Populations of Parish's daisy are most commonly found along washes on canyon bottoms or on loose alluvial deposits on adjacent benches, but they are also occasionally found on steep rocky slopes (Sanders 2006). Based on this species' occurrence on noncarbonate granitic soils, it is possible that the apparent carbonate preference is due to reduced competition from other plants, although reports of this species on noncarbonate soils are few (Sanders 2006). It

has also been observed at sites where soils have been found to be strongly alkaline, implying that the noncarbonated granitic soils may have been influenced in their soil chemistry by adjacent carbonate slopes (Sanders 2006).

Specific plant species associated with Parish's daisy have not been described in the literature, but dominant species within pinyon and juniper woodland where Parish's daisy is typically found include single-leaf pinyon pine, Utah juniper, and more rarely California juniper and western juniper. Understory species within pinyon and juniper woodland are more variable, but may include mountain-mahogany (*Cercocarpus ledifolius*), Mormon tea (*Ephedra viridis*), Mojave yucca, Joshua tree, and brittlebush.

Parish's daisy co-occurs with another carbonate endemic, Cushenbury oxtheca (*Acanthoscyphus parishii var. goodmaniana*). Its presence, however, appears to be negatively related to at least two other carbonate soils species - Cushenbury milk-vetch (*Astragalus albens*), and Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*), which tend to occur on more stable slopes.

Population Status in the Planning Area

Parish's daisy is endemic to Southern California, restricted to dry, calcareous (mostly limestone) slopes of the San Bernardino Mountains, with a few collections from granitic areas at the east end of the San Bernardino Mountains and in the Little San Bernardino Mountains where the species occurs on quartz monzonite substrate (Neel 2000; Sanders 2006). Parish's daisy occurs at elevations between 3,700 and 6,600 feet, most often in washes and canyon bottoms, but sometimes on alluvial benches or steep rocky mountainsides (Mistretta and White 2001). It is estimated that 1,029 acres are occupied Parish's daisy habitat (USFWS 2009g).

The current population status of Parish's daisy is unclear and there is a discrepancy in total reported occurrences of the species. According to the final listing rule in 1994, Parish's daisy was known from fewer than 25 occurrences with a total estimated population size of 16,000 individuals, but at that time the San Bernardino National Forest had mapped 87 site-specific occurrences (USFWS 2009g). USFWS (2009g) notes that what constitutes an occurrence has been subjectively defined over various surveys, making it difficult to specify status or change in status of Parish's daisy since it was listed. In addition, there has been an increase in survey efforts for this species since listing that has resulted in an increase in the number of occurrences detected. Sanders (2006) characterizes Parish's daisy as one of the more common carbonate endemics of the San Bernardino Mountains. Nonetheless, there has not been any systematic population studies conducted over time to document population trends.

Known distribution data for Parish's daisy within the WEMO Planning area is depicted in Figure 3.4-23. Within the planning area, the CNDDB identifies approximately 340 acres of element occurrences for this species on BLM lands. The amount of acres identified within each subregion is detailed above in Table 3.4-2. Additionally, approximately 940 acres of Critical Habitat has been designated within the planning area (Table 3.4-2 and Figure 3.4-23).

Regulatory Status

Parish's daisy is Federally listed as threatened, but is not state listed. Critical habitat was designated on December 12, 2002 (67 FR 78570–78610). A recovery plan addresses this species, *San Bernardino Mountains Carbonate Plants Draft Recovery Plan* (USFWS 1997b). As of 2010, no status changes for Parish's daisy were indicated by USFWS (75 FR 28636–28642). Parish's

daisy has a CRPR of 1B.1. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .1 are "seriously threatened in California, with over 80% of occurrences threatened/high degree and immediacy of threat" (CNPS 2011). The Parish's daisy has a California Heritage Element Ranking of S2S3, indicating that it is somewhere between "imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province" and "vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation" (CDFW 2012b).

Threats

The main threat to Parish's daisy is limestone mining because this species is mostly restricted to carbonate deposits (USFWS 2009g). Besides direct impacts, dust and artificial lighting can affect the species through dust impacts on soil chemistry and lighting availability for seeds and the impacts of artificial lighting on growing conditions (USFWS 2009g). Sanders (2006) notes that that after moistening, the mining dust appears to harden into a cement-like coating. Additional threats listed by USFWS and CNPS include energy development projects, OHVs, grazing, fuel-wood collection, fire suppression activities, camping, target shooting, road construction, and residential developments, but these threats are relatively low compared to mining (USFWS 2009g; CNPS 2011).

The specific potential effects of climate change on Parish's daisy are unknown, but if climate change caused a shift to higher elevations due to warmer and drier conditions, as has occurred with other plant species on the Santa Rosa Mountains of Southern California (Kelley and Goulden 2008), this endemic species could be concentrated in a smaller area and more vulnerable to extinction (USFWS 2009g).

Parish's Phacelia *(Phacelia parishii)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.14, pp. 3-192) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Parish's phacelia is a low-growing, annual herb in the borage or waterleaf family (Boraginaceae) ranging in height from 5 to 15 centimeters (0.2 to 0.5 inch) (Jepson Flora Project 2011). The comparatively simple, toothed to shallowly lobed leaves, and the unequal sepal size in fruit distinguish Parish's phacelia from many other phacelias; other species within its range that also have unequal sepals and have much showier flowers. The flowering season for Parish's phacelia is reported as April to July (CNPS 2011; Jepson Flora Project 2011), but all of the California collections have been made between April and May (White 2006b). The Mojave Desert flowering period is earlier than that of the Great Basin, and Smith (1997) reported that the California populations were fruiting by late April; the later dates have generally been for collections made in White Pine County, Nevada, at much higher elevation and latitude than the California occurrences.

Not much is known about the reproductive biology of the species, but it likely depends on wind and rain for seed dispersal. Given its restriction in California to seasonally wet alkaline flats, and

its many small seeds, its seed dispersal range is probably quite short, but seeds may occasionally be ingested by shorebirds or picked up with mud on their feet and carried long distances (White 2006b).

Although some precipitation data are known for the Nevada populations of Parish's phacelia (Smith 1997), there is little information on the ecology of the species in California. In Nevada at one of the Pahrump Valley sites, bees are thought to contribute to pollination, and at another Nevada site (Indian Springs Valley), moths are believed to be at least partially involved with pollination (Smith 1997).

Typical habitat for Parish's phacelia includes clay and alkaline soils, and dry lake margins at elevations of 1,772 to 3,937 feet. In California, the species has been documented in central San Bernardino County on playas and valley floors that are relatively unvegetated and have few associated species. Habitats are creosote bush scrub and alkali sinks. According to White (2006b), all the known occurrences of Parish's phacelia in California occur on sparsely vegetated alkaline flats, generally in dry, cracked mud flats of seasonal pools, and growth is apparently controlled by water level as plants may appear within different levels of the pools, depending on the hydrologic conditions and the timing of rainfall. Smith (1997) reports that the species tends to occupy flat, open expanses, but may also occur on gentle slopes.

Population Status in the Planning Area

Parish's phacelia is known in California from four sites east and south of Barstow in San Bernardino County and one site in Stewart Valley near the Nevada border in Inyo County. Although rare, its habitat is well known, and Parish's phacelia is more widely distributed in Nevada, and has also been identified from one location in Arizona.

This species occurs at elevations ranging between 1,772 and 3,937 feet (elevations in Nevada populations are somewhat higher), but all of the California collections have been made from alkaline playas or lakebeds below about 3,000 feet (White 2006b). In San Bernardino County, the species has been collected in USGS 7.5-minute quadrangles: Lucerne Valley, Fifteen Mile Valley, Harvard Hill, Yermo, Barstow, and Alvord Mountain West. In Inyo County, the species was collected from the Six-mile Spring quadrangle.

In 1984, Parish's phacelia was presumed extinct in California until it was rediscovered in 1989 by Bagley in a new San Bernardino County location southeast of Coyote Lake (Smith 1997). The species was collected by F. Smith in 1995 in Inyo County, California, and is now known from three occurrences in California (CNPS 2011).

Parish's phacelia was proposed as a federal candidate for listing in 1993 (58 FR 51144–51190), and Rhodes and Williams (1977, cited in Smith 1997) discussed its likely extirpation at historical occurrences in Nevada. Parish's phacelia is known from 15 occurrences in Nevada, and subsequent surveys in years of ample rainfall identified much larger populations and the recommendation for candidacy was withdrawn.

As noted above, USFWS estimated the population at the Coyote Dry Lake site as approximately 200 million plants in 1991. Bagley (1996, cited in White 2006b) visited the same site in 1996, an extremely dry year, and did not find evidence of the species that year.

The historical distribution of the species in California occurs in locations near Coyote Dry Lake, Rabbit Springs, and Calico in San Bernardino County, and in Stewart Valley in Inyo County

(CDFW 2012b). There are four occurrences of Parish's phacelia in the CNDDB (CDFW 2012b). However, the species is reported as presumed extinct (White 2006b; Smith 1997) at two of the known sites—the type location near Rabbit Springs and the Waterman's Ranch site near Calico (CDFW 2012b).

Parish's phacelia is currently known from only three sites in the planning area (CDFW 2012b; Smith 1997; White 2006b). The extant locations are the Stewart Valley, Inyo County, population discovered by F. Smith in 1995 (not recorded in CNDDB); and the San Bernardino County collections that were made by Ripley and Barneby at Lucerne Dry Lake in 1941 (CDFW 2012b), by Bagley in 1989, by Bransfield and Rutherford in 1991, and by Sanders and Skinner in 1995 in an area southeast of Coyote Dry Lake, near the southern boundary of Fort Irwin (CDFW 2012b). Parish's phacelia was collected at the third site near Yermo, east of Barstow, by Charlton in 1992 (Smith 1997; CDFW 2012b).

Bagley's 1989 collection was made along a string of dry lakes between Manix Tank Trail and Coyote Dry Lake, about 12 miles northeast of Yermo, noting a population of several thousand plants occupying about 5 acres. Subsequent USFWS surveys of the Coyote Dry Lake population in 1991 increased the estimate to approximately 50,000 plants and, by extrapolating to the area of occupied habitat, estimated that the population could be as many as 200 million plants on approximately 247 acres (White 2006b). In a subsequent 1995 survey, collection notes by Sanders and Skinner record about 10,000 individuals in the same area (Smith 1997). Smith noted about 200 plants at the Stewart Valley site on a 5- acre area.

Charlton's 1992 collection was made east of Barstow, near Yermo on Powerline Road, near the Sunrise Canyon Road off-ramp (CDFW 2012b). According to White (2006b), the location is about 6 miles southwest of the Coyote Dry Lake site.

Known distribution data for Parish's phacelia within the WEMO Planning area is depicted in Figure 3.4-24. Within the planning area, the CNDDB identifies approximately 1,654 acres of element occurrences for this species on BLM lands. The amount of acres identified within each subregion is detailed above in Table 3.4-2.

Regulatory Status

Parish's phacelia (*Phacelia parishii*) is not Federally or state listed. This species was previously classified as a Category 2 Candidate for Listing under the federal ESA as amended in 1988 (58 FR 51144–51190). Parish's phacelia has a CRPR of 1B.1. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). Parish's phacelia has a California Heritage Element Ranking of S1.1, indicating that it is "critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province" (CDFW 2012b).

Threats

The known California populations of Parish's phacelia are confined to a relatively small area, which makes the species vulnerable to extinction. With the exception of the Stewart Valley site, all occurrences of the species are within the vicinity of the Fort Irwin Military Base and could be extirpated if the populations are disturbed by military exercises, or by the expansion of the current military facilities in the area (White 2006b).

Populations that occur southeast of Coyote Lake in the Fort Irwin area are threatened by tank use and other off-road vehicles (CDFW 2012b). White (2006b) notes that other reports have indicated that access road construction and the establishment of power line corridors could disrupt the local hydrology, and that these potential activities threaten current populations. The BLM's special-status plant management program also lists overgrazing by cattle and horses as a threat to populations in the Barstow area (BLM 2005).

Red Rock Poppy *(Eschscholzia minutiflora ssp. Twisselmannii)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.16, pp. 3-193) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Red Rock poppy is a small annual herb in the poppy family (*Papaveraceae*) that stands approximately 2 to 14 inches tall (BLM 2010b; Jepson Flora Project 2011). It blooms from March to May (CNPS 2011). Red Rock poppy has a relatively large colorful flower, so it is most likely probably insect pollinated. Potential pollinators of Red Rock poppy that have been recorded on Edwards Air Force Base include solitary bees (*Dufourea desertorum, D. malacothricis, D. vernalis*), a hersperapis bee (*Hesperapis parva*), and miner bees (*Perdita carinata, P. inflexa, P. mortuaria, P. mucronata, P. robustula*) (Buchman and others 2010).

Information on the natural history of Red Rock poppy, such as seed germination, and seed dispersal has not been reported. However, it is a desert annual that reproduces by seed. In addition, the soil seed bank is probably important for the long-term survival of populations, as it is for many other desert annuals.

Red Rock poppy is associated with bajadas and alluvial fans, flats, washes, and slopes in Mojavean desert scrub communities on volcanic tuff (CNPS 2011; CDFW 2012b). It has a very limited geographic distribution, and little is known of its life history and ecological relationships. As an annual species the population numbers vary widely from year to year in response to annual rainfall. Plants may not appear at all in low rainfall years (CDFW 2012b).

Red Rock poppy occurs on volcanic tuff in Mojavean desert scrub on desert washes, flats, and slopes (CNPS 2011; CDFW 2012b). It has been recorded on bajadas and alluvial fans, flats, washes, and slopes (CDFW 2012b). The subspecies may be specific to rhyolite tuffs and granitic derived soils (Clark and Faull 1991), but these are common in the area where Red Rock poppy occurs (Sanders and Pitzer 2006). Red Rock poppy has also been reported on sedimentary mounds, limestone, metamorphic rocks, and rocky basalt (CDFW 2012b). Aspects are generally west, southwest, or south (CDFW 2012b). Associated species include a variety of common Mojave desert scrub shrubs and herbs (CDFW 2012b). The subspecies ranges in elevation from 680 to 1,230 meters (2,231 to 4,035 feet) according to CNPS (2011), but one occurrence is at 4,040 feet (CDFW 2012b).

Population Status in the Planning Area

Red Rock poppy is known only from the Rand and El Paso mountains in Kern and San Bernardino counties in the western Mojave Desert (CNPS 2011; Jepson Flora Project 2011). All 26 CNDDB occurrences are in the planning area (CDFW 2012b).

For the 22 recent (i.e., since 1990) occurrences in the planning area, population size estimates total over 41,000 plants (CDFW 2012b). The type locality for this species is Red Rock Canyon. Over the years this occurrence has supported 100 plants in 1998, 8 plants in 1989–1990, approximately 16,000 plants in 1991, and the largest observed population with over 35,000 plants in 2003. This occurrence was last seen in 2005, but a population estimate was not recorded. The population in Mesquite Canyon is the second largest for the species, with an estimated 3,375 individuals in 1991 (CDFW 2012b). No additional data are available to determine its current status and population trend, but it clearly exhibits large population fluctuations. CDFW (2012a) lists the trend as unknown for all occurrences.

All 26 CNDDB occurrences are in the planning area (CDFW 2012b). There are two historical CNDDB occurrences in the planning area from before 1990 (CDFW 2012b). One of these is a record from 1958 located approximately 2 miles southeast of Searles Station with unknown ownership (CDFW 2012b). The other is located on Edwards Air Force Base managed by the DOD; a BLM report from 1999 states that this is a "probable occurrence," but the identification needs verification (CDFW 2012b). Both of these occurrences are presumed to be extant (CDFW 2012b).

Twenty-four of the CNDDB occurrences in the planning area are recent occurrences (i.e., since 1990) and are presumed to be extant. Six of these are located within Red Rock Canyon State Park, managed by the DPR. The remaining 18 are located on BLM land farther east (CDFW 2012b).

Known distribution data for Red Rock poppy within the WEMO Planning area is depicted in Figure 3.4-25. Within the planning area, the CNDDB identifies approximately 2,170 acres of element occurrences for this species on BLM lands. The amount of acres identified within each subregion is detailed above in Table 3.4-2.

Regulatory Status

Red Rock poppy is not Federally or state listed, but is a BLM sensitive species. Red Rock poppy has a CRPR of 1B.2. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "fairly endangered in California, with 20%–80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). Red Rock poppy has a California Heritage Element Ranking of S2.2, indicating that it is considered imperiled in California (CDFW 2012b).

Threats

Red Rock poppy is primarily threatened by OHV activity (CNPS 2011; CDFW 2012b). In Red Rock Canyon State Park, habitat for Red Rock poppy occurs along the main routes of travel (Sampson 2007). OHVs disrupt the surface soil and compact the surface soil and subsoil, leading to soil loss. The most significant long term effect is the accelerated erosion and associated inability of areas subject to heavy OHV use to support natural revegetation. OHV use also directly damages and destroys plants. Plant rehabilitation efforts are often marginally successful or unsuccessful (as cited in Sampson 2007).

Red Rock Tarplant *(Deinandra arida)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.17, pp. 3-193) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

Red Rock tarplant is an annual herb in the sunflower family (Asteraceae) that stands approximately 2 to 8 decimeters (7.9 to 32 inches) in height. Red Rock tarplant blooms from April through November (CNPS 2011). Pollination studies have not been conducted for this species; however, Faull (1987) has observed small beetles and honey bees visiting Red Rock tarplant flowers.

Red Rock tarplant does not appear to reproduce vegetatively, but rather by seeds.

However, seed germination and seedling establishment has not been reported for this species. Baldwin reports that *Hemizonia* (now *Deinandra*) ray achenes maintain some degree of dormancy while the disk achenes freely germinate (Sanders 2006). Red Rock tarplant consistently produces fertile ray achenes (but few to zero fertile disk achenes). Sanders (2006) suggests that the ray achenes could contribute to the persistence of a Red Rock tarplant seed bank through difficult climatic cycles vegetatively.

Red Rock tarplant and Mojave tarplant (*Deinandra mohavensis*) are the only two selfcompatible species of *Hemizonia* (now *Deinandra*) (Tanowitz 1982; Sanders 2006). This may be the result of genetic drift and/or the relative isolation of these two species, which occur on the edge of the desert as local populations (Sanders 2006).

Red Rock tarplant grows in Mojavean desert scrub communities on clay soils and volcanic tuff (CNPS 2011). In general, this species is associated with seeps and seasonally moist substrates along ephemeral streams (sandy and gravelly washes), low ridges, and road shoulders (CDFW 2012b). Faull (1987) found that Red Rock tarplant habitat consists of the following:

1. Sandy to gravelly ephemeral alluvial washes, sometimes exhibiting surface platey structure;
2. Moist alkaline fringes of seeps and springs along alluvial flats and washes;
3. Relatively shallow, dry, sandy alluvial and colluvial slopes at the base of ridges and cliffs and associated erosional ravines; and
4. Ledges of dry colluvium suspended on steep cliff slopes up to 160 feet above the valley floor by ribs of resistant bedrock.

Preferred habitat appears to be adjacent to seeps and along washes (Sanders 2006). From a geologic substrate perspective, Red Rock tarplant appears to prefer erosional remnants of the Ricardo Group, but also occurs on Quaternary alluvium (Faull 1987). Associated species in moister locations include the seep-spring monkeyflower (*Mimulus guttatus*) and Palmer's monkeyflower (*Mimulus palmeri*) (Faull 1987).

Population Status in the Planning Area

Red Rock tarplant is known from Red Rock Canyon and Last Chance Canyon, primarily in Red Rock Canyon State Park in Kern County, California (Faull 1987; Tanowitz 1982; CDFW 2012b). This species occurs at elevations from 300 to 950 meters (900 to 2,850 feet) (CNPS 2011).

As of 1987, according to the DPR, the Red Rock tarplant was well protected and its abundance was stable or increasing (Faull 1987). For the five occurrences within the Red Rock Canyon State Park, abundance estimates for the four 1998 CNDDB records were 3,060 plants (1,250 plants in

1986), 2 plants, 1 plant, and 2,300 plants. The 2004 CNDDB record abundance estimate was 3,400 plants (11,000+ in 1986). The 1993 CNDDB record outside the Red Rock Canyon State Park does not include an estimate of plants (CDFW 2012b). No additional data are available to determine its current status and population trend.

There are six CNDDB occurrences in the planning area, all of which are recent (status updated since 1990 [CDFW 2012b]). All of these occurrences are from Red Rock Canyon and Last Chance Canyon, and five are within the Red Rock Canyon State Park (one is located just south of the state park) (CDFW 2012b). The sixth occurrence is on BLM property (Faull 1987).

Known distribution data for Red Rock tarplant within the WEMO Planning area is depicted in Figure 3.4-26. Within the planning area, the CNDDB identifies approximately 69 acres of element occurrences for this species on BLM lands within the El Paso subregion (Table 3.4-2).

Regulatory Status

Red Rock tarplant is not Federally or state listed, but is a BLM sensitive species. Red Rock tarplant was previously a candidate for federal listing (58 FR 64828–64845), but was removed from candidacy on February 28, 1996, in a notice of review (61 FR 7597–7613). Red Rock tarplant has a CRPR of 1B.2. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "fairly endangered in California, with 20%–80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). Red Rock tarplant has a California Heritage Element Ranking of S1.2, indicating that it is considered critically imperiled in California (CDFW 2012b).

Threats

The primary threat appears to be OHV use and colonization by invasive non-natives such as shrub tamarisk (*Tamarisk ramosissima*) (Faull 1987). Red Rock tarplant are vulnerable to anthropogenic disturbances such as OHV use (Faull 1987). Camping and vehicle parking at Red Cliffs in Red Rock Canyon may also be threats. Measures to control these threats have been implemented by the DPR in the past (Faull 1987), but current management is uncertain. Faull (1987) observed that Red Rock tarplant experiences herbivory by rabbits (and possibly ground squirrels): the main stems and branches of up to 75% of plants at one location were observed to have been removed by herbivores.

Robison's Monardella *(Monardella robisonii)*

Life History

Robinson's monardella is a perennial subshrub or shrub in the mint family (*Lamiaceae*) that is endemic to California. Robinson's monardella is typically 15 to 50 centimeters (5.9 to 19.7 inches) tall and it has an erect, multi-branched habit (Jepson Flora Project 2013). Flowering period is from April to September (Calflora 2013) or February to October (CNPS 2013).

Robinson's monardella is found among granite boulders (Jepson Flora Project 2013). This species is found in desert scrub (Jepson 2013) and pinyon and juniper woodland vegetation communities (CNPS 2013). Elevation range is 2,001 to 4,921 feet amsl (CNPS 2013).

Population Status in the Planning Area

Endemic to California (Riverside and San Bernardino Counties) (CNPS 2013) and found in the Little San Bernardino Mountains (Jepson Flora Project 2013). Known occurrences within the Project Area are in the general area north of Desert Hot Springs and Yucca Valley, parts of Joshua Tree NP, and adjacent lands to the north (CNPS 2013).

Known distribution data for Robinson's monardella within the WEMO Planning area is depicted in Figure 3.4-27. Within the planning area, the CNDDB identifies approximately 138 acres of element occurrences for this species on BLM lands. The amount of acres identified within each subregion is detailed above in Table 3.4-2.

Regulatory Status

Robinson's monardella is not a federal or state listed species (CNPS 2013), but is a BLM sensitive species. Robinson's monardella has a CRPR of 1B.3 (CNPS 2013). CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .3 are "not very threatened in California, with less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known" (CNPS 2011). Robinson's monardella has a California Heritage Element Ranking of S3, indicating that it is "vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation" (CDFW 2012b).

Threats

Robinson's monardella threats are not described (CNPS 2013).

Sanicle Cymopterus *(Cymopterus ripleyi var. saniculoides)*

Life History

Sanicle cymopterus is a small perennial herb in the carrot family (Apiaceae) that is known from California and Nevada. Sanicle cymopterus is typically 10 to 15 centimeters (3.9 to 5.9 inches) tall, sprouting from a buried root crown (Jepson Flora Project 2013). Flowering period is from April to June (Calflora 2013).

Sanicle cymopterus is found on gravelly, sandy, or carbonate substrates (Jepson Flora Project 2013). This species is found in Joshua tree woodland and Mojavean desert scrub vegetation communities (CNPS 2013). Elevation range is 3,609 to 5,446 feet amsl (CNPS 2013).

Population Status in the Planning Area

Sanicle cymopterus is known from California (Inyo County) and Nevada (CNPS 2013), in the southern high Sierra Nevada Mountains, southeast of the Sierra Nevada Mountains, and in the north desert mountains (Jepson Flora Project 2013). Known occurrences within the Project Area are located to the south and east of Owens Lake (CNPS 2013).

Known distribution data for Sanicle cymopterus within the WEMO Planning area is depicted in Figure 3.4-28. Within the planning area, the CNDDB identifies approximately 389 acres of element occurrences for this species on BLM lands within the Sierra subregion (Table 3.4-2).

Regulatory Status

Sanicle cymopterus is not a federal or state listed species (CNPS 2013), but is a BLM sensitive species. Sanicle cymopterus has a CRPR of 1B.2 (CNPS 2013). CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "fairly endangered in California, with 20%–80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). Sanicle cymopterus has a California Heritage Element Ranking of S1, indicating that it is "critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province" (CDFW 2012b).

Threats

Sanicle cymopterus is threatened by cattle grazing on BLM land at Lee Flat, as well as by vehicles and mining (CNPS 2013).

Short-joint Beavertail *(Opuntia basilaris var. brachyclada)*

Background information for the short-joint beavertail would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005). For a general discussion of this species, please refer to Section 3.3.8.20, pgs. 3-194 and 3-195. The supplemental information presented below is based on the species account from the California Native Plant Society (CNPS 2014) and recent BLM data.

Life History

Short-joint beavertail cactus is mostly associated with Joshua tree, pinyon pine, and juniper woodlands, although it also occurs in chaparral and Mojave desert scrub communities. It has been reported from a wide variety of well-drained soils, from sandy to rocky, in open streambeds and on rocky slopes. Flowering period is from April to August (CNPS 2014). It occurs between elevations of 3000 – 6500 feet.

Population Status in the Planning Area

Known distribution data for Short-joint beavertail cactus within the WEMO Planning area is depicted in Figure 3.4-29. Within the planning area, the CNDDB identifies approximately 25 acres of element occurrences for this species on BLM lands within the Victorville subregion (Table 3.4-2).

Regulatory Status

The short-joint beavertail is not Federally or state listed, but is a BLM sensitive species and has a CRPR of 1B.2 (CNPS 2013). CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .2 are "fairly endangered in California, with 20%–80% of occurrences threatened/moderate degree and immediacy of threat" (CNPS 2011). Short-joint beavertail has a California Heritage Element Ranking of S3, indicating that it is "vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation" (CDFW 2012b).

Threats

This species is threatened by urbanization, mining, horticultural collecting, grazing, and vehicles (CNPS 2014). Other possible threats include powerline construction and non-native plant encroachment (CNPS 2014).

Spanish Needle Onion *(Allium shevockii)*

The Spanish Needle onion was not included in the 2005 WEMO Final EIS (BLM 2005), but is considered to potentially occur within the planning area based on recent documentation (Dudek and ICF International 2012) and consultation with BLM biologists. The information presented below is based on the species accounts prepared for the recent March 2012 draft Desert Renewable Energy Conservation Plan baseline biology report (Dudek and ICF International 2012).

Life History

Spanish Needle onion is a perennial bulbiferous herb that stands approximately 10 to 20 centimeters (3.9 to 7.9 inches) tall (Jepson Flora Project 2011). It grows each year from an underground bulb, with the leaves withering after flowering, which is given variously as May to June (CNPS 2011) and June to July (Jepson Flora Project 2011). This information probably comes from the original Spanish Needle Peak population, because the lower elevation Tehachapi populations flower as early as late April.

Like several other onion species in California, Spanish Needle onion appears to reproduce mostly vegetatively, by production of new bulbs that form on short rhizomes growing from the base of the parent bulb (McNeal 1987), at least as indicated by the Spanish Needle Peak population (Pitzer 2006). The flowers, however, are large and distinctive and are probably attractive to insect pollinators, and plants in the Horse Canyon area have been reported to produce seed (Hare pers. comm. 1997, cited in Pitzer 2006). There has been no research on pollinators, seed production, establishment of bulbs, or other aspects of its reproduction (Pitzer 2006).

Spanish Needle onion grows in rocky soil and at the edge of rock outcrops and talus derived from volcanic and metamorphic rock (Pitzer 2006; CDFW 2012b; Jepson Flora Project 2011). The rocky sites inhabited by Spanish Needle onion are sparsely vegetated; the occurrences are surrounded by sparse pinyon-juniper woodland with pinyon pine, California juniper, chaparral yucca (*Hesperoyucca whipplei*), and narrowleaf goldenbush (*Ericameria linearifolia*) (CDFW 2012b). An elevation range of 2,000 to 2,500 meters (6,560 to 8,200 feet) is given in recent literature (Jepson Flora Project 2011), whereas CNPS (2011) provides a low elevation of 850 meters (2,790 feet). The Horse Canyon occurrences are at 4,800 to 5,225 feet, and recent records in the CNDDB give much lower elevations for the Jawbone Canyon occurrences: 1,050 and 3,000 feet (CDFW 2012b). Therefore, based on records in the CNDDB, its elevation range in the planning area appears to be 1,050 to 5,400 feet (CDFW 2012b).

Population Status in the Planning Area

Spanish Needle onion is known from two areas in Kern County: the type locality on Spanish Needle Peak in northern Kern County, and in the Horse Canyon/Jawbone Canyon area in the Tehachapi Mountains area on the southeast edge of the Tehachapi Range (CDFW 2012b; CNPS 2011). The CNDDB records 10 occurrences: one, the type locality, on Spanish Needle Peak; and nine in the Horse/Jawbone Canyon area in the Tehachapi Mountains (CDFW 2012b).

Spanish Needle onion has a very small global range, with relatively small numbers of plants in each occurrence. Five occurrences support fewer than 50 plants, and two contain 90 to 100 plants; however, at least 300 plants were noted in an incomplete count of the occurrence west of Horse Canyon (CDFW 2012b). Only one occurrence appears to have a substantial number of plants; this location is just west of Peak 4859 southeast of the Piute Mountains (CDFW 2012b). Eight of the nine occurrences in the planning area were considered to be in excellent condition when visited; the ninth was considered good (CDFW 2012b). There are no ongoing surveys that could provide information on population trends.

The original discovery of Spanish Needle onion was on Spanish Needle Peak just outside the planning area in BLM's Caliente RA and until relatively recently, this was the only known location. The nine Horse/Jawbone Canyon CNDDB occurrences are in the planning area. Recent discoveries (since 1995) of Spanish Needle onion extended the range to the Tehachapi Mountains. Three occurrences are in upper Horse Canyon; one is on a ridge just west of Horse Canyon; two are in Jawbone Canyon; one is east of Miller Springs; and two are near Pine Spring (CDFW 2012b).

Of the nine occurrences of Spanish Needle onion in the planning area, five are on lands managed by BLM. About half of the population in Horse Canyon is in the BLM Horse Canyon ACEC, which was established and is managed for its cultural resources, and not botanical resources. Additionally, the majority of this ACEC (all but approximately 0.1 acre) and all of the known Spanish needle onion populations within it are located outside the planning area.

Known distribution data for Spanish Needle onion within the WEMO Planning area is depicted in Figure 3.4-30. Within the planning area, the CNDDB identifies approximately six acres of element occurrences for this species on BLM lands. The amount of acres identified within each subregion is detailed above in Table 3.4-2.

Regulatory Status

Spanish Needle onion (*Allium shevockii*) is not Federally or state listed, but is a BLM sensitive species. Spanish needle onion has a CRPR of 1B.3. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b).

Threats

Because of the relatively remote and rugged character of its habitat, threats to the species are considered minimal (Pitzer 2006; CDFW 2012b). However, because it occurs in relatively small numbers at each known occurrence, it may be vulnerable to local extirpation from random events. Potential threats mentioned by surveyors are wind energy development, grazing, OHV use, and road/trail construction (CDFW 2012b), but there is no evidence that these threats are causing actual damage to any populations. An additional potential threat comes from the showy flowers that could attract collectors, but so far, there is no evidence that bulb collection is occurring (Pitzer 2006).

White-margined Beardtongue *(Penstemon albomarginatus)*

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.8.22, pp. 3-195 and 3-196) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

Life History

White-margined beardtongue is a short-lived perennial member of the plantain family (*Plantaginaceae*) that is 15 to 35 centimeters (5.9 to 13.8 inches) tall (CNPS 2011; Jepson Flora Project 2011). It appears to reproduce primarily through production and dispersal of seed (Etyemezian and others 2010) and blooms between March and May (Jepson Flora Project 2011). Peak flowering appears to occur in April of most years (Etyemezian and others 2010).

Like many Mojave Desert perennial plants, white-margined beardtongue reproductive events are rare and episodic and may require a combination of successive wet years that favor seed production, seed germination, and seedling growth (Etyemezian and others 2010). Andre (2010) notes that this species maintains a substantial soil seed bank and survives underground as a subterranean heterotrophy (root/caudex) during dry years (Andre 2010). Even during average years of precipitation, a large percentage of the seed bank will not germinate and many living plants remain dormant underground. Only a subset of plants will put on above ground growth, and an even fewer number flower and set seed. Seed banks can persist in the soil for many decades before germinating (Andre 2010).

Andre (2010) also has observed and documented frequent localized extinctions of cohorts with rapid establishment of plants in previously unoccupied areas. He concludes that plants at the California occurrence behave like biennials or short-lived perennials, relying upon the maintenance of a viable seed bank, and over time exhibit a shifting distribution within the aeolian sands where they occur (Andre 2010).

Etyemezian and others (2010) observed very limited seed production and dispersal of whitemargined beardtongue at study sites in Nevada during the drought years of 2008–2009. They attributed the lack of reproductive success to drought and insect herbivory at two sites, but did observe seed dispersal at one site in 2009. Seed dispersal distances ranged from 1 to 15 centimeters (0.4 to 6 inches) at this site.

MacKay (2006) noted that white-margined beardtongue is present in some washes but absent in other drainages nearby, and suggests that might be due to both limited seed dispersal distances and the lack of suitable stabilized deep sand in those other drainages (MacKay 2006). She suggests that the small seeds could be scattered short distances by ants or rodents, or may get transported by water in very wet years.

The tendency for plants to occur in scattered groups of up to 20 individuals, and the fact that young cuttings produce adventitious roots in experiments (Scogin 1989, as cited in MacKay 2006), suggest that vegetative reproduction may occur in this species in its natural habitat, even though attempts to propagate from cuttings at the garden failed (Scogin 1989, as cited in MacKay 2006).

The success of white-margined beardtongue is dependent upon a variety of interactions with pollinators and other nearby plant species, as well as a variety of ecological processes. The showy flowers are visited by several insects, including small carabid beetles, large flies, and vespid wasps with orange abdomens. Pollen was observed on upper-body surfaces of the vespids, making them the most likely pollinator of white-margined beardtongue (Scogin 1989, as cited in MacKay 2006).

White-margined beardtongue establishment is much more likely in canopy inter-spaces than under plant canopies, but Etyemezian and others (2010) could not determine whether competition with other perennial species or other micro-environmental factors were responsible for this phenomenon (Etyemezian and others 2010). For the few individuals they noticed growing in under canopy

locations, the overstory species was equally likely to be white bursage or big galleta grass (only in Clark County), but never creosote bush.

The CNDDB element occurrence information cites the habitat requirements of whitemargined beardtongue as Mojave Desert scrub and desert dunes, specifically in deep, stabilized desert sand, and in washes and along roadsides (CDFW 2012b). Within California, Andre (2010) notes that this species occurs on mostly "fine alluvial sands within a sparse creosote bush scrub community."

White-margined beardtongue occurs from 635 to 1,065 meters (2,083 to 3,494 feet) (CDFW 2012b). There are additional records in the CCH database that, if verified, would extend this elevation range to as low as 426 meters (1,398 feet) (Jepson Flora Project 2011).

Population Status in the Planning Area

White-margined beardtongue is known from only four general locations: two in the Mojave Desert of Southern Nevada, one in the Mojave Desert in California, and one in the Sonoran Desert of northwest Arizona (Smith 2001, cited in Etyemezian and others 2010).

Its distribution in California is restricted to eastern San Bernardino County (CDFW 2012b), in the following quadrangles (listed from west to east): Troy Lake, Hector, Lavic Lake, Sleeping Beauty, Ludlow, and Cadiz Summit. The majority of the 23 occurrences documented in the CNDDB, all of which are within the planning area (CDFW 2012b), are located north of I-40, including a large population occurring in a 4-mile-long wash northeast of Pisgah Crater, extending southwest from Sleeping Beauty Peak, and terminating in a flat spreading basin south of the freeway (CDFW 2012b; MacKay 2006). The species is also found in another wash extending south–southeast from Sleeping Beauty Peak, and in a number of smaller locations mapped since 2008 west of there in the vicinity of Hector (CDFW 2012b). South of I-40, the species has been documented in the vicinity of Lavic Lake and Swede Hill (southeast of Lavic Lake) (CDFW 2012b).

Five CNDDB occurrences were originally recorded prior to 1990, although they are all presumed extant (CDFW 2012b). The three oldest records, from 1935 to 1940, are located (1) in the vicinity of Lavic Lake; (2) south of Swede Hill, east of Lavic Lake; and (3) near the western junction of I-40 and SR 66 in the Ludlow quadrangle. These three records have not been updated since then. The two remaining records, last updated in 1989, are located (1) in the Cadiz Summit quadrangle in the vicinity of SR 66, and (2) in a wash extending south and southeast of Sleeping Beauty Peak on land managed by the BLM. The Cadiz Summit occurrence was added by the CDFW as a "best guess" based on a 1941 collection that documented white-margined beardtongue plants "between Cadiz and Danby." The site was searched by Scogin in 1989 and later by Andre, but neither botanist observed whitemargined beardtongue in this location. Scogin noted that there is "too much gravel cover, sand is too shallow" (CDFW 2012b). This occurrence needs additional field work.

Eighteen CNDDB occurrences have been observed since 1990, 16 of which are documented on BLM land (CDFW 2012b). Ownership of the land for the two remaining records observed since 1990 is unknown. All 18 of these records are located east of the Newberry Springs area at the western edge of the known range of the species in California and are presumed extant.

Known distribution data for white-margined beardtongue onion within the WEMO Planning area is depicted in Figure 3.4-31. Within the planning area, the CNDDB identifies approximately 2,971 acres of element occurrences for this species on BLM lands. The amount of acres identified within each subregion is detailed above in Table 3.4-2.

Regulatory Status

White-margined (*Penstemon albomarginatus*) beardtongue is not Federally or state listed, but is a BLM sensitive species. White-margined beardtounge has a CRPR of 1B.1. CRPR 1B species are considered "rare, threatened, or endangered in California and elsewhere" (CDFW 2012b). CRPR species with a threat rank of .1 are "seriously threatened in California, with over 80% of occurrences threatened/high degree and immediacy of threat" (CNPS 2011). White-margined beardtongue has a California Heritage Element Ranking of S1, indicating that it is "critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province" (CDFW 2012b).

Threats

At the time of the 2006 WEMO Plan analysis, all of the white-margined beardtongue occurrences in California were located within or adjacent to BLM verified solar and wind project applications, the BLM Pisgah Solar Energy Zone, approved solar projects, or on military bases. The proposed solar projects have been withdrawn from consideration for a variety of reasons and the Pisgah SEZ was eliminated from further consideration in the Final Solar PEIS. These locations are also near possible military base expansion lands, including Fort Irwin Army Base and the Twenty-Nine Palms MCAGCC (29 Palms). According to the 29 Palms Land Acquisition/Airspace Establishment Study FEIS (29 Palms FEIS), white-margined beardtongue is located in the Lavic Lake Training Area, but it was not observed or discussed as potentially occurring in the expansion areas to the west, south, and east of the existing combat center (Department of the Navy 2011b). However, the 29 Palms FEIS also reports potential habitat (i.e., creosote bush scrub and/or desert dunes) for white-margined beardtongue in all three expansion areas, so there is likely some risk to this species that would result from these expansion plans.

This species is also potentially threatened by the presence of I-40 and numerous utility access roads that facilitate movement of people and OHVs to the occupied habitat areas. MacKay (2006) notes that repeated destruction of above-ground plants may use up nutrient stores within the long taproot of the plant and result in declines of this species. Large, organized off-road races also create massive dust clouds and are held in areas adjacent to white-margined beardtongue habitat areas in Nevada. The dust has been seen rising hundreds of feet into the air (Mangrich, pers. obs. 2009), and poses a potential threat to the Nevada population's pollinators, as well as the plant's photosynthetic capacity (Mangrich, pers. obs. 2009). Although there are no known organized off-road races held near occupied habitat within the planning area, OHV activity in the planning area could pose similar, albeit somewhat less severe, threats.

Other threats include the presence of power lines and pipelines that bring human disturbance into areas of occupied habitat (MacKay 2006). Military activities (e.g., camping) have also been observed in the vicinity of occupied habitat areas, which could increase trampling damage to the species (MacKay 2006).

Although white-margined beardtongue is a showy plant, it does not appear that there is a threat resulting from horticultural efforts because it doesn't propagate well from cuttings, and transplantation efforts have been unsuccessful (Scogin 1989, as cited in MacKay 2006).

3.4.3.2 Wildlife Species

A total of 51 special status wildlife species were identified as potentially occurring within the planning area (BLM 2005, 2013a,b; Dudek and ICF International 2012). These species, their associated habitats, and their potential for occurrence within the study area are summarized in Appendix D, Special Status Species. The potential for each of the 51 species to be affected by the proposed action or alternatives was evaluated for each species based on their known distribution and suitable habitat within the planning area. Based on these evaluations, 32 special status wildlife species have been determined as not affected by the proposed action or alternatives based on their known distributions as discussed in Appendix D, Special Status Species. Potential occurrence for the remaining 19 species were identified by the locations of element occurrences on BLM lands as determined by the CNDDB, designated Critical Habitat, known nest locations provided by BLM biologists, ACECs, and other known population data (i.e., core areas). The total acreage of potential occurrence for each of the 19 species by subregion are listed in Table 3.4-3 and are discussed in detail below for each species.

Table 3.4-3. Acres of Identified Special Status Wildlife Species Potential Occurrence on BLM Lands within the WEMO Planning Area by Subregion

Subregion	Subregion Abbreviation	Species	Potential Occurrence Type	Sum of Acres
Afton Canyon	AC	Desert tortoise	Critical Habitat	2.2
		Fringed myotis	CNDDB	4.9
		Golden eagle	Nest Site - 1/2 Mile Buffer	498.1
			Nest Site - 1/4 Mile Buffer	125.6
		Nelson's bighorn sheep	CNDDB	27336.0
		Pallid bat	CNDDB	22.4
Barstow	BA	Burrowing owl	CNDDB	2.0
		Desert tortoise	Critical Habitat	639.0
		Golden eagle	Nest Site - 1/2 Mile Buffer	0.1
		Le Conte's thrasher	BLM Designated Habitat	83.3
Black Mountain	BM	Bendire's thrasher	BLM Designated Habitat	1369.6
		Desert tortoise	Critical Habitat	91742.6
		Golden eagle	Nest Site - 1/2 Mile Buffer	817.6
			Nest Site - 1/4 Mile Buffer	286.4
		Mohave ground squirrel	Core Areas	2010.3
Broadwell Lake	BL	Bendire's thrasher	BLM Designated Habitat	4.9
		Burrowing owl	CNDDB	9.9
		Golden eagle	Nest Site - 1/2 Mile Buffer	1664.9
			Nest Site - 1/4 Mile Buffer	436.6
		Mojave fringe-toed lizard	CNDDB	611.5
		Nelson's bighorn sheep	CNDDB	22042.9
Calico Mountains	CM	Desert tortoise	Critical Habitat	29131.7
		Le Conte's thrasher	BLM Designated Habitat	38.3

Table 3.4-3. Acres of Identified Special Status Wildlife Species Potential Occurrence on BLM Lands within the WEMO Planning Area by Subregion

Subregion	Subregion Abbreviation	Species	Potential Occurrence Type	Sum of Acres
Coolgardie	CG	Desert tortoise	Critical Habitat	81478.2
		Le Conte's thrasher	BLM Designated Habitat	49.3
		Mohave ground squirrel	Core Areas	31712.3
Cronese Lake	CL	Desert tortoise	Critical Habitat	81754.0
		Mojave fringe-toed lizard	CNDDB	5332.4
Darwin	DA	Le Conte's thrasher	BLM Designated Habitat	276.5
		Nelson's bighorn sheep	CNDDB	310.9
		Pallid bat	CNDDB	14.5
El Mirage	EM	Desert tortoise	Critical Habitat	26933.8
El Paso	EP	Burrowing owl	CNDDB	4.9
		Desert tortoise	Critical Habitat	67.8
		Golden eagle	Nest Site - 1/2 Mile Buffer	2214.9
			Nest Site - 1/4 Mile Buffer	699.6
		Le Conte's thrasher	BLM Designated Habitat	31.0
		Mohave ground squirrel	Core Areas	29138.1
			Leitner Population	2698.3
			Other Known Populations	259.4
Fremont Peak	FP	Desert tortoise	Critical Habitat	72849.4
		Golden eagle	Nest Site - 1/2 Mile Buffer	6.6
		Mohave ground squirrel	Leitner Population	28145.1
			Other Known Populations	13288.3
Harper Lake	HL	Burrowing owl	CNDDB	935.5
		Desert tortoise	Critical Habitat	27275.0
		Mohave ground squirrel	Leitner Population	3049.1
		Mojave fringe-toed lizard	CNDDB	4943.6
Iron Mountain	IM	Burrowing owl	CNDDB	6.1
		Desert tortoise	Critical Habitat	8499.9
		Mohave ground squirrel	Leitner Population	1060.3
Jawbone	JB	Bendire's thrasher	BLM Designated Habitat	13260.6
		Burrowing owl	CNDDB	58.1
		Golden eagle	Nest Site - 1/2 Mile Buffer	832.0
			Nest Site - 1/4 Mile Buffer	152.8
		Le Conte's thrasher	BLM Designated Habitat	238.4
		Mohave ground squirrel	Core Areas	54447.9
		Pallid bat	CNDDB	776.3

Table 3.4-3. Acres of Identified Special Status Wildlife Species Potential Occurrence on BLM Lands within the WEMO Planning Area by Subregion

Subregion	Subregion Abbreviation	Species	Potential Occurrence Type	Sum of Acres
Johnson Valley	JV	Desert tortoise	Critical Habitat	4953.3
		Golden eagle	Nest Site - 1/2 Mile Buffer	2260.4
			Nest Site - 1/4 Mile Buffer	609.6
		Le Conte's thrasher	BLM Designated Habitat	101.3
		Western mastiff bat	CNDDB	154.4
Joshua Tree	JT	Desert tortoise	Critical Habitat	102680.3
		Nelson's bighorn sheep	CNDDB	9007.6
		Pallid bat	CNDDB	5.0
Juniper Flats	JF	Golden eagle	Nest Site - 1/2 Mile Buffer	212.4
			Nest Site - 1/4 Mile Buffer	9.6
Kramer Hills	KH	Desert tortoise	Critical Habitat	65661.5
		Mohave ground squirrel	Leitner Population	8037.9
Lancaster	LA	Desert tortoise	Critical Habitat	1369.1
		Le Conte's thrasher	BLM Designated Habitat	1.2
		Mohave ground squirrel	Core Areas	126.0
Middle Knob	MK	Burrowing owl	CNDDB	0.6
		Golden eagle	Nest Site - 1/2 Mile Buffer	636.8
			Nest Site - 1/4 Mile Buffer	152.0
		Le Conte's thrasher	BLM Designated Habitat	15.3
Mitchel Mountains	MM	Desert tortoise	Critical Habitat	13925.4
		Golden eagle	Nest Site - 1/2 Mile Buffer	302.9
			Nest Site - 1/4 Mile Buffer	118.0
Morongo Valley	MV	Least Bell's vireo	CNDDB	1441.2
		Nelson's bighorn sheep	CNDDB	5083.3
		Pallid bat	CNDDB	416.1
NA[1]	NA	Bendire's thrasher	BLM Designated Habitat	33.5
		Desert tortoise	Critical Habitat	667.8
		Le Conte's thrasher	BLM Designated Habitat	16.4
		Mohave ground squirrel	Core Areas	68.7
			Other Known Populations	129.7
		Mojave fringe-toed lizard	CNDDB	0.7
		Nelson's bighorn sheep	CNDDB	903.0
Needles South	NE	Desert tortoise	Critical Habitat	1197.2
		Le Conte's thrasher	BLM Designated Habitat	4.6
		Mojave fringe-toed lizard	CNDDB	12373.4
		Nelson's bighorn sheep	CNDDB	7587.2

Table 3.4-3. Acres of Identified Special Status Wildlife Species Potential Occurrence on BLM Lands within the WEMO Planning Area by Subregion

Subregion	Subregion Abbreviation	Species	Potential Occurrence Type	Sum of Acres
Newberry / Rodman	NR	Desert tortoise	Critical Habitat	101325.6
		Golden eagle	Nest Site - 1/2 Mile Buffer	1261.7
			Nest Site - 1/4 Mile Buffer	308.8
		Nelson's bighorn sheep	CNDDB	24730.1
North Searles	NS	Le Conte's thrasher	BLM Designated Habitat	4765.6
		Mohave ground squirrel	Leitner Population	15328.9
		Nelson's bighorn sheep	CNDDB	31718.3
		Pallid bat	CNDDB	25.1
		Western small-footed myotis	CNDDB	25.1
Ord Mountains	OM	Burrowing owl	CNDDB	1.7
		Desert tortoise	Critical Habitat	106574.2
		Golden eagle	Nest Site - 1/2 Mile Buffer	4617.5
			Nest Site - 1/4 Mile Buffer	1259.2
		Nelson's bighorn sheep	CNDDB	879.1
Pisgah Crater	PC	Mojave fringe-toed lizard	CNDDB	1779.0
Rands	RA	Burrowing owl	CNDDB	69.1
		Desert tortoise	Critical Habitat	52676.2
		Golden eagle	Nest Site - 1/2 Mile Buffer	1182.1
			Nest Site - 1/4 Mile Buffer	301.6
		Gray vireo	CNDDB	69.2
		Le Conte's thrasher	BLM Designated Habitat	1.1
		Mohave ground squirrel	Leitner Population	10262.7
			Other Known Populations	18449.6
		Pallid bat	CNDDB	1156.5
		Spotted bat	CNDDB	12.9
Rattlesnake Canyon	RC	Bendire's thrasher	BLM Designated Habitat	34.6
		Golden eagle	Nest Site - 1/2 Mile Buffer	502.6
			Nest Site - 1/4 Mile Buffer	125.6
		Le Conte's thrasher	BLM Designated Habitat	5.9
Red Mountain	RM	Desert tortoise	Critical Habitat	111357.0
		Golden eagle	Nest Site - 1/2 Mile Buffer	502.6
			Nest Site - 1/4 Mile Buffer	125.6
		Mohave ground squirrel	Leitner Population	13068.7
			Other Known Populations	29974.4

Table 3.4-3. Acres of Identified Special Status Wildlife Species Potential Occurrence on BLM Lands within the WEMO Planning Area by Subregion

Subregion	Subregion Abbreviation	Species	Potential Occurrence Type	Sum of Acres
Ridgecrest	RI	Le Conte's thrasher	BLM Designated Habitat	118.7
		Mohave ground squirrel	Leitner Population	14405.3
			Other Known Populations	14276.2
Sierra	SI	Burrowing owl	CNDDB	758.4
		Golden eagle	Nest Site - 1/2 Mile Buffer	3455.2
			Nest Site - 1/4 Mile Buffer	904.2
		Le Conte's thrasher	BLM Designated Habitat	1967.5
		Least Bell's vireo	CNDDB	28.0
		Mohave ground squirrel	Core Areas	63934.4
		Northern sagebrush lizard	CNDDB	9.9
		Swainson's hawk	CNDDB	68.6
South Searles	SS	Mohave ground squirrel	Other Known Populations	6952.6
Stoddard Valley	SV	Bendire's thrasher	BLM Designated Habitat	214.6
		Burrowing owl	CNDDB	10.6
		Desert tortoise	Critical Habitat	0.2
		Golden eagle	Nest Site - 1/2 Mile Buffer	7655.6
			Nest Site - 1/4 Mile Buffer	2173.2
		Le Conte's thrasher	BLM Designated Habitat	1836.7
		Mojave fringe-toed lizard	CNDDB	3.6
		Western mastiff bat	CNDDB	834.7
Victorville	VV	Desert tortoise	Critical Habitat	497.2
		Western mastiff bat	CNDDB	47.4
Wonder Valley	WV	Bendire's thrasher	BLM Designated Habitat	0.3
		Le Conte's thrasher	BLM Designated Habitat	9.2
		Mojave fringe-toed lizard	CNDDB	447.7
		Nelson's bighorn sheep	CNDDB	6751.9

[1]NA = BLM lands outside designated subregion boundaries within the WEMO planning area.

Additionally, 19 species were not included in the 2005 WEMO Final EIS (BLM 2005), but are in this SEIS since they are considered to potentially occur within the planning area based on recent documentation (Dudek and ICF International 2012) and consultation with BLM biologists. These species include the:

- Hoary Bat
- Western Red Bat
- Fringed Myotis
- Western Small-footed Myotis
- Least Bell's Vireo
- Mountain Plover
- Swainson's Hawk
- Tricolored Blackbird

- American Peregrine Falcon
- Bald Eagle
- Bank Swallow
- California Condor
- Greater Sandhill Crane
- White-tailed Kite
- Yuma Clapper Rail
- Mojave Tui Chub
- Northern Sagebrush Lizard
- Tehachapi Slender Salamander
- Arroyo Toad

The 19 special status wildlife species identified as potentially affected by the proposed action or alternatives within the planning area are described in the following section.

The majority of the updated summaries of species are based on the Species Accounts prepared for the recent March 2012 draft Desert Renewable Energy Conservation Plan (Dudek and ICF International 2012) baseline biology report. The intent of the DRECP includes effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects (California Energy Commission 2013). The WEMO Planning area exists within the boundaries of the DRECP planning area.

3.4.3.2.1 Mammals

Mohave Ground Squirrel

The information from the 2005 WEMO Final EIS (BLM 2005)is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012). All other background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.3, pp. 3-144 to 3-169 of the 2005 WEMO Final EIS.

Life History

There is little direct information on the potential role of MGS in maintaining ecological relationships and processes. Their burrow systems likely provide refuge for other species that do not dig their own burrows such as snakes and lizards and potentially other small rodents. The range of the MGS is entirely overlapped by the diurnal white-tailed antelope squirrel, but there appears to be little direct competition between the two species (MGSWG 2011). They are probably prey for several natural predators, such as coyote, American badger, bobcat, red-tailed hawk, golden eagle, prairie falcon, common raven, and Mojave rattlesnake (Best 1995).

MGS maintain three types of burrows within their home ranges: (1) home burrows that are used overnight during the active season and usually located at the edge of a home range; (2) aestivation burrows; and (3) accessory burrows that are used during social interactions or for escape and thermoregulation during the midday (Best 1995). Burrows are typically constructed under large shrubs (MGSWG 2011).

Harris and Leitner (2004) conducted a 5-year radiotelemetry study of home range use by MGS in the Coso Range in Inyo County. At this study site, individual MGS home ranges (calculated using

both minimum convex polygon and adaptive kernel methods) varied substantially by year, individual, sex, and season (i.e., mating season vs. post-mating season). Generally, males have larger home ranges than females, with the most pronounced differences during the mating season.

Harris and Leitner (2005) used radiotelemetry to track dispersal movements by juvenile MGS in their first year to hibernation sites. Most juveniles dispersed relatively long distances from their natal burrow area, and exhibited dispersal that is farther than other squirrels and other mammals in proportion to home range sizes (Harris and Leitner 2005).

The MGS breeding season is from mid-February to mid-March (Best 1995; Laabs 2006). Males emerge from hibernation in February, up to two weeks before females, and during this time they may be territorial (Best 1995). Females generally only occupy male territories for one or two days then establish their own home ranges after copulation. Males stake out the overwintering sites of females to mate with them when they emerge (MGSWG 2011).

Pregnant females are present from February to May and gestation lasts from 29 to 30 days (Best 1995). Litter sizes range from four to nine (Best 1995), though mortality of juveniles is high during the first year, especially for juvenile males (MGSWG 2011). Parental care and lactation continues through mid-May and juveniles emerge above ground from 10 days to 2 weeks later. Litters generally appear above ground in early May (Harris and Leitner 2004). Females will breed at 1 year of age if environmental conditions are suitable, but males do not mate until 2 years of age (MGSWG 2011).

Population Status in the Planning Area

Endemic to California, the Mohave ground squirrel is exclusively found in the northwestern Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo counties (Best 1995). The presumed historical range of the Mohave ground squirrel within the northwestern Mojave Desert was bounded on the south and west by the San Gabriel, Tehachapi, and Sierra Nevada mountain ranges; on the northeast by Owens Lake, and the Coso Slate, Quail, Granite and Avawatz mountains; and on the east and southeast by the Mojave River (Leitner 2008; MGSWG 2011). In addition, the species was historically found in one locality east of the Mojave River in the Lucerne Valley. Its historic range covered about 20,000 square kilometers (km2) (7,722 square miles (mi2)) (Gustafson 1993), which is the smallest geographic range of any ground squirrel species in the United States. However, for the 12-month finding for the species published in October 2011, USFWS used a somewhat larger historical range of approximately 21,525 km2 (8,311 mi2) (76 FR 62214– 62258). USFWS also stated in the 12-month finding that the range of the Mohave ground squirrel may be larger than defined in the finding or previously published based on recent sightings such as in an interior valley of the Tehachapi Mountains and in the Panamint Valley about 8 kilometers (5 miles) north of the defined range (76 FR 62214–62258).

Conversion of native desert habitats has likely resulted in the extirpation of Mohave ground squirrel from west of Palmdale and Lancaster where it likely occupied the Antelope Valley historically, but which has experienced rapid growth in recent decades (Laabs 2006; Leitner 2008). There are no recent records or observations from the southern portion of its range, between Palmdale and Lucerne Valley, suggesting that Mohave ground squirrel may have been extirpated in this highly developed area (Laabs 2006). Approximately 46% of the California Natural Diversity Database (CNDDB) records for the Mohave ground squirrel are historic or have no date. These records are located throughout the species' range (CDFW 2011).

The current range is reduced from the historic range as a result of the likely extirpation of the Mohave ground squirrel in the western portion of the Antelope Valley and potentially south of Victorville and southeast to Lucerne Valley (MGSWG 2011). Habitat for the species has been reduced by development of agricultural uses, grazing, urbanization, military activities, energy production, and recreation (MGSWG 2011). The current occupied range is estimated to be about 19,000 km2 (6,640 mi2) (MGSWG 2011).

The occurrence of Mohave ground squirrel is likely to be patchy within its range, even within apparently suitable habitat (MGSWG 2011). However, as noted by Leitner (2008), occurrence records tend to be concentrated in certain areas where trapping studies have been focused; these studies are discussed in more detail below. There has not been a systematic, range-wide census or statistically based random sampling study to determine occupation throughout the species' range (Leitner 2008). About 88% of the geographic area of known existing populations of the species, based on Leitner (2008), occur in the planning area (only a portion of the Coso Range-Olancha Core population is outside this area).

Recent (after 1990) records from the CNDDB and 2005 West Mojave Plan Mohave ground squirrel transect data and other California Department of Fish and Wildlife (CDFW) data include location occurrences ranging from Inyo in the north to 3 miles southwest of Rabbit Lake in the south. The eastern extent ranges to the Granite Mountains and Fort Irwin and the westernmost record is just east of Oak Creek (Dudek 2011).

Leitner (2008) provides the most current status of the Mohave ground squirrel based on compilation of a database, including unpublished field studies, surveys, and incidental observations for the 10-year period from 1998 through 2007. This database includes 1,140 trapping sessions, of which 102 resulted in observation of the species, and 96 additional incidental observations. Most of these studies and observations have been conducted in the southern part of the species' range south of State Route 58 and no range-wide systematic or statistically based random sampling has been conducted to characterize the species' status throughout its range. Leitner (2008) emphasizes that there are large areas of potential habitat where the species' status is unknown, especially on the China Lake Naval Air Weapons Station and Fort Irwin. Data compiled by Leitner within the planning area is detailed in Table 3.4-4 by subregion and shown in Figure 3.4-32.

Table 3.4-4. Acres of Leitner Data for the Mohave Ground Squirrel within the Planning Area[1]

Subregion	Subregion Abbreviation	Name	Sum of Acres
North Searles	NS	North Searles Valley	15,328.9
Fremont Peak	FP	Boron Extension	3,458.0
		Harper Lake	24,687.1
Harper Lake	HL	Harper Lake	3,049.1
Iron Mountain	IM	Harper Lake	1,060.3
Kramer Hills	KH	Harper Lake	8,037.9
El Paso	EP	Fremont Valley/ Teagle	2,698.3
Rands	RA	Boron Extension	8.0
		Fremont Valley/ Teagle	10,254.7

Table 3.4-4. Acres of Leitner Data for the Mohave Ground Squirrel within the Planning Area[1]

Subregion	Subregion Abbreviation	Name	Sum of Acres
Red Mountain	RM	Boron Extension	4,022.6
		Fremont Valley/ Teagle	9,046.1
Ridgecrest	RI	Fremont Valley/ Teagle	14,405.3
Total			**96,056.2**

[1]Data overlaps with Leitner data and Core Areas for the Mohave Ground Squirrel

In addition to the Leitner data above, other known populations have been documented by BLM biologists. The occurrences of other known Mohave ground squirrel populations within the planning area are detailed in Table 3.4-5 and shown in Figure 3.4-32.

Table 3.4-5. Acres of Mohave Ground Squirrel Known Population Data within the Planning Area[1]

Subregion	Subregion Abbreviation	Name	Sum of Acres
South Searles	SS	Ridgecrest	6,952.6
Fremont Peak	FP	Boron/ Kramer Junction	13,288.3
El Paso	EP	Ridgecrest	259.4
Rands	RA	Boron/ Kramer Junction	1,450.0
		Desert Tortoise Natural Area	16,999.6
Red Mountain	RM	Boron/ Kramer Junction	10,216.0
		Pilot Knob	19,758.4
Ridgecrest	RI	Ridgecrest	14,276.2
NA[2]	NA	Pilot Knob	45.2
		Ridgecrest	84.4
Total			**83,330.1**

[1]Data overlaps with Leitner data and Core Areas for the Mohave Ground Squirrel
[2]NA = BLM lands outside designated subregion boundaries within the WEMO planning area.

The 2005 WEMO Final EIS details that available data suggest that local MGS populations follow a "boom and bust" cycle, where they expand into habitats when conditions are favorable, and shrink back into core areas when conditions are less favorable, particularly when conditions such as drought occur over a several-year period. Approximately 181,438 acres of core area have been identified for this species within the planning area (Table 3.4-6, Figure 3.4-32).

Table 3.4-6. Acres of Mohave Ground Squirrel Core Area within the Planning Area[1]

Subregion	Subregion Abbreviation	Core Area Name	Sum of Acres
Black Mountain	BM	Coolgardie Mesa-Superior Valley	2010.3
Coolgardie	CG	Coolgardie Mesa-Superior Valley	31712.3

Table 3.4-6. Acres of Mohave Ground Squirrel Core Area within the Planning Area[1]

Subregion	Subregion Abbreviation	Core Area Name	Sum of Acres
El Paso	EP	Little Dixie Wash	29138.1
Jawbone	JB	Little Dixie Wash	54447.9
Lancaster	LA	Edwards Air Force Base	126.0
NA[2]	NA	Coolgardie Mesa-Superior Valley	65.5
		Coso Range-Olancha	3.3
Sierra	SI	Coso Range-Olancha	63138.0
		Little Dixie Wash	796.3
Total			**181,437.7**

[1]Data overlaps with Leitner data and Core Areas for the Mohave Ground Squirrel
[2]NA = BLM lands outside designated subregion boundaries within the WEMO planning area.

Threats

Threats to the Mohave ground squirrel would not change from the previous analysis provided by the 2005 WEMO Final EIS (BLM 2005) within the planning area. For a discussion of these threats, please refer to Section 3.3.3.5, pg. 3-157 to 167.

Bats

The information from the 2005 WEMO Final EIS (BLM 2005)is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012). All other background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.4, pp. 3-169 to 3-170 of the 2005 WEMO Final EIS.

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.4, pg. 3-169 to 3-170) is supplemented by the following updated information from the DRECP Baseline Biology Report (Dudek and ICF International 2012).

Life History

Five species occurring within the planning area could potentially be affected by the proposed action or alternatives: spotted bat, pallid bat, western mastiff bat, fringed myotis, and western small-footed myotis.

The fringed myotis and western small-footed myotis were not included in the 2005 WEMO Final EIS (BLM 2005). The fringed myotis and western small-footed myotis occur within a wide variety of habitats, but use caves, mines, buildings, and crevices as roost sites. Hibernation lasts from October/November through March. Mating occurs in the fall and the young are born from May through July (Zeiner, D.C. et al 1988-1990).

The fringed myotis is widespread in California and the western small-footed myotis is a common resident of arid uplands in California occurring from on the west and east sides of the Sierra Nevada, and in Great Basin and desert habitats from Modoc to Kern and San Bernardino counties.

The range for both species occurs along the western and northern boundaries of the planning area (Zeiner, D.C. et al 1988-1990).

All other life history information for the other three species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.4, pp. 3-169 to 3-170 of the 2005 WEMO Final EIS.

Population Status in the Planning Area

Within the planning area, the CNDDB identifies approximately 3,495 acres of element occurrences for these species on BLM lands (Figure 3.4-33). The amount of acres identified within each subregion is detailed above in Table 3.4-3. All other known occurrence data for the spotted bat, pallid bat, and western mastiff bat would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.4, pp. 3-169 to 3-170. Potential to occur within the area that could be affected by the proposed action or alternatives was evaluated based on the location of known mine sites.

Regulatory Status

The regulatory status for the five bat species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.4, pp. 3-169 to 3-170 of the 2005 WEMO Final EIS.

Threats

The threats identified for the five bat species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.4, pp. 3-169 to 3-170 of the 2005 WEMO Final EIS.

Nelson's Bighorn Sheep

The information from the 2005 WEMO Final EIS (BLM 2005) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012). All other background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.5, pp. 3-170 to 3-171 of the 2005 WEMO Final EIS.

Life History

The life history of the bighorn sheep would not change from the previous analysis provided by the 2005 WEMO Final EIS (BLM 2005) within the planning area. Please refer to Section 3.3.5.1, pg. 3-171

Population Status in the Planning Area

The CDFW (2010a) prepared the *Biennial Report to the Legislature Regarding Bighorn Sheep Management* pursuant to Section 4094 of the California Fish and Wildlife Code. This report summarizes census information related to long-term management of bighorn sheep (including the authorization of hunting tags) and includes sheep counts in specific management units in 2009 and 2010. The distribution of bighorn sheep is grouped by a regional system of subpopulations (or metapopulations) based on natural physical features such as geography and vegetation that affect species occurrence, as well as manmade obstacles that affect distribution, such as freeways (CDFW 2010c). Aerial surveys in 2009 and 2010 documented 1,022 bighorn sheep, including ewes, lambs, and rams, in the following mountain ranges: Marble Mountains; Clipper Mountains; Kelso Peak and Old Dad Peak; Clark, Kingston, and Mesquite Mountains; Orocopia Mountains; Sheephole Mountains; South Bristol Mountains; Cady Mountains; White Mountains; and San Gorgonio Mountains. The 1,022 individuals represent minimum populations in these areas because they were only animals actually observed; population size is assumed to be larger (CDFW 2010c). The CDFW (2010c) report included the Peninsular bighorn sheep metapopulation, with an estimate of about 950 adults and recruited lambs among the nine distinct subpopulations as of December 2010.

Within the planning area, the CNDDB identifies approximately 136,350 acres of element occurrences for this species on BLM lands (Figure 3.4-34). The amount of acres identified within each subregion is detailed above in Table 3.4-3.

Regulatory Status

The regulatory status of the bighorn sheep would not change from the previous analysis provided by the 2005 WEMO Final EIS (BLM 2005) within the planning area. Please refer to Section 3.3.5.1, pg. 3-171.

Threats

Threats to this species would not change from the previous analysis provided by the 2005 WEMO Final EIS (BLM 2005) within the planning area. For a discussion of these threats, please refer to Section 3.3.5.1, pg. 3-171.

3.4.3.2.2 Birds

Southwestern Willow Flycatcher

The information from the 2005 WEMO Final EIS (BLM 2005) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012). All other background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.6.11, pp. 3-178 to 3-179 of the 2005 WEMO Final EIS.

Life History

In California, the southwestern willow flycatcher is restricted to riparian habitats occurring along streams or in meadows (Craig and Williams 1998; Sogge and others 2010). The structure of these habitats typically consists of a dense mid-story and understory and can also include a dense canopy

(60 FR 10695–10715). However, suitable vegetation is not uniformly dense and typically includes interspersed patches of open habitat. Typical plant species associated with their habitat include willow (*Salix* spp.), mulefat (*Baccharis salicifolia*), box-elder (*Acer negundo*), stinging nettle (*Urtica* spp.), cottonwood (*Populus* spp.), tamarisk (*Tamarix* spp.), and Russian olive (*Elaeagnus angustifolia*). Within the habitat structure parameters discussed above, southwestern willow flycatcher does demonstrate adaptability in that it can occupy riparian habitats composed of native broadleaf species, a mix of native and exotic species, or monotypic stands of exotics (Sogge and others 2010). This subspecies is known to nest in monotypic stands of Russian olive and tamarisk (60 FR 10695–10715). Furthermore, along the San Luis Rey River in San Diego County, southwestern willow flycatcher has nested in riparian habitat dominated by coast live oak (*Quercus agrifolia*), and in Cliff-Gila Valley in New Mexico they are known to nest in tall box-elder. Plant species composition does not seem as important as a dense twig structure and an abundance of live, green foliage (Sogge and others 2010). Also, the location of the nest seems to depend more on suitable twig structure and live vegetative cover than height or plant species composition (Sogge and others 2010).

Southwestern willow flycatcher nesting sites are located near surface water or saturated soils. Due to the variability of hydrologic conditions in Southern California, water availability at a site may range from inundated to dry from year to year or within the breeding season. Nonetheless, moisture levels must remain high enough to support appropriate riparian vegetation (Sogge and others 2010). Dense willow thickets are the most important habitat component for breeding E. t. adastus and E. t. brewsteri in California (Stefani and others 2001).

Southwestern willow flycatchers are insectivorous and forage at the edges or internal openings of their territory, above the canopy or over open water. Their diet consists mainly of bees, wasps, flies, leaf hoppers, and beetles (Durst and others 2008b), which they catch in the air, glean from vegetation, or occasionally pick, catch, or seize from the ground (Sedgwick 2000). Presumably, the diets of migrating *E. t. adastus* and *E. t. brewsteri* are similar.

Southwestern willow flycatcher is predominantly monogamous although reports of polygyny are not uncommon (Sedgwick 2000). Males arrive at the breeding sites between early May and early June (USFWS 2002). Females arrive 1 to 2 weeks after males and inhabit the territory of a male (Finch and Stoleson 2000). Nest building begins approximately 2 weeks after pair formation. The female incubates the eggs for an average of 12 to 13 days. The nestlings fledge between 12 and 15 days after hatching (Sogge and others 2010). Southwestern willow flycatcher will typically renest following an unsuccessful attempt and less frequently may renest following a successful attempt.

Population Status in the Planning Area

In addition to the known breeding sites documented it the 2005 WEMO Final EIS (Section 3.3.6.11, pp. 3-178 to 3-179), the CNDDB contains one historical (i.e., pre-1990) occurrence for the southwestern willow flycatcher located north of Independence in Inyo County (CDFW 2012b). Four additional historical occurrences for willow flycatchers (subspecies not identified) are located in the vicinity of the cities of Mojave and California City (Dudek 2011). Critical habitat established along the Mojave River is situated within the Plan Area (70 FR 60886–61009). There are approximately 2,025 acres of Critical Habitat identified in the Plan Area in the subregions of Juniper Flats, Stoddard Valley, and Victorville. Within the planning area, the CNDDB identifies approximately 17.5 acres of element occurrences for this species (Figure 3.4-35) within the subregions of Juniper Flats and Victorville. However, Critical Habitat and CNDDB element

occurrences do not overlap with any BLM lands within the subregions identified and are, therefore, not detailed in Table 3.4-3.

Regulatory Status

The regulatory status for the southwestern willow flycatcher has not changed from the 2005 WEMO Final EIS as described in Section 3.3.6.11, pg. 3-179 (BLM 2005).

Threats

The primary threat to the southwestern willow flycatcher is loss, modification, and fragmentation of suitable riparian habitat (Sogge et al. 2010). In general, increased human populations and development have resulted in a decline of riparian habitat, a habitat type that is naturally rare, patchy, and dynamic in the Southwest due to the varying hydrologic conditions of the region. The specific primary causes for loss and modification of riparian habitats have been dams and reservoirs, water diversion and groundwater pumping, channelization, flood control, agriculture, recreation, and urbanization (Sogge et al. 2010). Other threats include nest parasitism by cowbirds and grazing.

Western Yellow-billed Cuckoo

The information from the 2005 WEMO Final EIS (BLM 2005) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012). All other background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.6.15, pg. 3-181 of the 2005 WEMO Final EIS.

Life History

In the western United States, nests are typically constructed in willows, Fremont cottonwood, mesquite, hackberry (*Celtis* spp.), soapberry (*Sapindus saponaria*), alder (*Alnus* spp.), or cultivated fruit trees on horizontal branches or vertical forks of the large tree or shrub (Hughes 1999). Nest sites in arid regions are restricted to relatively humid river bottoms, ponds, swampy areas, and damp thickets (Hughes 1999). Foraging occurs extensively in cottonwood riparian habitat (Hughes 1999).

The western yellow-billed cuckoo has a short breeding season, lasting only about 4 months from time of arrival on breeding grounds in the spring to fall migration. Western yellow-billed cuckoos typically lay a single clutch per season in mid-June to mid-July, and incubation occurs over 9 to 11 days (Hughes 1999; Johnson and others 2008). Development of the young is very rapid, with fledgling occurring in 6 to 9 days; the entire breeding cycle may be only 17 days from egg laying to fledging of the young (Hughes 1999). Fledglings are dependent upon parents for up to 3 weeks following fledgling (Johnson and others 2008). Cuckoos are a monogamous species, and both sexes incubate and care for the young (Hughes 1999).

Population Status in the Planning Area

The CNDDB contains 29 historical (i.e., pre-1990) occurrence records dating from 1917 to 1986. Of the known occurrences, 26 are from 3 years: 1977 (13), 1983 (2), and 1986 (11). Single known

occurrences are from 1917, 1945, 1964, and 1978. Of the historical known occurrences in the Plan Area, 23 are from the LCR, with 14 known occurrences from Imperial County, ranging from the Palo Verde area to the U.S.–Mexico border; 6 from eastern Riverside County in the Blythe area; and 2 from San Bernardino County in the Needles area. Five of the historical known occurrences are from the Amargosa River, Tecopa, China Ranch, and Independence areas in Inyo County, and 2 are from the Mojave River in the Upper Narrows and Hodge areas in San Bernardino County. Of 29 historical known occurrences, 22 are on public land and 7 are on private land.

Within the planning area, the CNDDB identifies approximately 138 acres of element occurrences for this species (Figure 3.4-36) within the subregions of Iron Mountain, Juniper Flats and Victorville. However, these CNDDB element occurrences do not overlap with any BLM lands within the subregions identified and are, therefore, not detailed in Table 3.4-3.

Regulatory Status

The regulatory status for the western yellow-billed cuckoo has been updated from the 2005 WEMO Final EIS (BLM 2005) to include a BLM Sensitive listing in addition to California endangered and proposed threatened under the ESA (as described in Section 3.3.6.15, pg. 3-181 of the 2005 WEMO Final EIS (BLM 2005). Additionally, a decision on the designation of Critical Habitat is pending.

Threats

The western yellow-billed cuckoo is sensitive to habitat fragmentation and degradation of riparian woodlands due to agricultural and residential development (Hughes 1999), and major declines among western populations reflect local extinctions and low colonization rates (Laymon and Halterman 1989). Groundwater pumping and the replacement of native riparian habitats by invasive non-native plants, especially tamarisk, have substantially reduced the area and quality of available breeding habitats for yellow-billed cuckoo (75 FR 69222–69294).

Bendire's Thrasher

The information from the 2005 WEMO Final EIS (BLM 2005) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012). All other background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.6.1, pp. 3-173 to 3-174 of the 2005 WEMO Final EIS.

Life History

This species breeds in desert areas containing cactus, Mojave yuccas, and Joshua trees.

Population Status in the Planning Area

The CNDDB identifies approximately 14,918 acres within element occurrences for this species within the planning area on BLM lands (Figure 3.4-37). The amount of acres identified within each subregion is detailed above in Table 3.4-3. In addition, approximately 11,710 acres has been designated as the Bendire's Thrasher ACEC to protect suitable Bendire's thrasher habitat between the Jawbone and Stoddard Valley Subregions (Figure 3.4-37).

Regulatory Status

The regulatory status for the Bendire's thrasher has been updated from the 2005 WEMO Final EIS (BLM 2005) to include BLM Sensitive and a USFWS bird of conservation concern in addition to the California Species of Special Concern status (as described in Section 3.3.6.1, pg. 3-173 of the 2005 WEMO Final EIS).

Threats

Identified threats include habitat destruction through rural and urban development, off-road vehicle activity during the nesting season, and removal of yuccas and cholla cacti. Grazing has shown both positive and negative effects on this species. Fragmentation of the small remaining populations is a serious long-term threat.

Burrowing Owl

The information from the 2005 WEMO Final EIS (BLM 2005) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012). All other background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.6.3, pg. 3-174 of the 2005 WEMO Final EIS.

Life History

Throughout their range, burrowing owls require habitats with three basic attributes: open, well-drained terrain; short, sparse vegetation generally lacking trees; and underground burrows or burrow-like structures (e.g., pipe openings) (Gervais and others 2008; Klute and others 2003).

Burrowing owls are opportunistic predators that will consume arthropods, small mammals, birds, amphibians, and reptiles (Haug and others 1993; Karalus and Eckert 1987; Gervais and others 2008). Owls typically forage in habitats characterized by low-growing, sparse vegetation (Haug and others 1993). In California, crickets and meadow voles were found to be the most common food items (Thomsen 1971).

Nesting in California generally runs from February through August, with peak activity from mid-April to mid-July (Zeiner and others 1990; Thomsen 1971; Gervais and others 2008). Burrowing owls are primarily monogamous and typically breed once per year.

California supports year-round resident burrowing owls and over-wintering migrants (Gervais and others 2008). Many owls remain resident throughout the year in their breeding locales (especially in central and Southern California) while some apparently migrate or disperse in the fall (Haug and others 1993; Coulombe 1971; Barclay 2007).

Burrowing owls exhibit high site-fidelity and reuse burrows year after year, although dispersal distances may be considerable and variable depending on location and the age of the owls. In California, western burrowing owls most commonly live in burrows created by ground squirrels (Gervais and others 2008). Therefore, the suitability and quality of burrowing owl habitat in the planning area is closely and positively related to the occurrence and population health of ground squirrels. In other regions where squirrel burrows do not occur, burrowing owls may depend on badgers for nest burrow excavation, although this species is a major predator of burrowing owls

(Green and Anthony 1997). Where burrowing mammals have been eliminated, burrowing owls may prefer grazed areas where livestock have reduced vegetation height (Wedgwood 1976).

Population Status in the Planning Area

In California, the burrowing owl's range extends throughout the lowlands from the northern Central Valley to the U.S.–Mexico border, with large populations in the Imperial Valley region of southeast California (Gervais and others 2008) and a small (perhaps extirpated) population in the Great Basin bioregion in northeast California (Cull and Hall 2007). The species' distribution and abundance vary considerably throughout its range (DeSante and others 2007; Wilkerson and Siegel 2010). Breeding burrowing owls are absent from the coast north of Sonoma County and from high mountain areas, such as the Sierra Nevada and the Transverse Ranges extending east from Santa Barbara County to San Bernardino County (Gervais and others 2008).

In addition to the statistics provided in Section 3.3.6.3, pg. 3-174 of the 2005 WEMO Final EIS (BLM 2005), burrowing owls occur across most of the Mojave and Sonoran deserts of Inyo, eastern Kern, northern Los Angeles, San Bernardino, eastern Riverside, eastern San Diego, and Imperial counties (Miller 2003, references therein). Garrett and Dunn (1981) described the species as "quite scarce" from Inyo County south through the eastern Mojave Desert. Greater abundance exists in the western Mojave Desert (Bureau of Land Management [BLM] 2005) where Wilkerson and Siegel (2010) recently estimated that 560 breeding pairs (approximately 6% of the California population) reside. However, with the exception of agricultural areas in the Imperial Valley, planning area-wide, regional numbers are low and occupied areas are widely scattered, which is likely typical for this species in desert systems (Gervais and others 2008). Some northerly birds may also move south into the planning area but the seasonality, magnitude and geographic pattern (if any) of the apparent winter influx from more northerly breeders is also poorly documented (BLM 2005).

Within the planning area, the CNDDB identifies approximately 1,857 acres of element occurrences for this species on BLM lands (Figure 3.4-38). The amount of acres identified within each subregion is detailed above in Table 3.4-3.

Regulatory Status

The regulatory status for the burrowing owl has been updated from the 2005 WEMO Final EIS (BLM 2005) to include BLM Sensitive and a USFWS bird of conservation concern in addition to the California Species of Special Concern status (as described in Section 3.3.6.3, pg. 3-174 of the 2005 WEMO Final EIS.

Threats

Threats to the burrowing owl would not change from the previous analysis provided by the 2005 WEMO Final EIS (BLM 2005) within the planning area. For a discussion of these threats, please refer to Section 3.3.6.3, pg. 3-174.

Golden Eagle

The information from the 2005 WEMO Final EIS (BLM 2005) is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012). All other background information for this species would not change from the previous analysis included in

the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.6.5, pg. 3-175 of the 2005 WEMO Final EIS.

Life History

Golden eagles use nearly all terrestrial habitats of the western states, occurring primarily in mountainous canyon land, rimrock terrain of open desert and grassland areas (Kochert and others 2002). In central California, they prefer open grasslands and oak savanna, with lesser numbers in oak woodland and open shrublands (Hunt and others 1998) but can also be found in desert grasslands and chaparral habitats (Millsap 1981). Secluded cliffs with overhanging ledges and large trees are used for nesting and cover. Preferred territory sites include those that have a favorable nest site, a dependable food supply, and broad expanses of open country for foraging. Golden eagles typically forage in open habitats including grasslands and shrublands.

Golden eagles in the planning area are mostly resident, but may move downslope for winter or upslope after the breeding season (Polite and Pratt 1990). Both residents and migratory individuals show fidelity to wintering areas (Kochert and others 2002).

Golden eagles use the same nest each year, alternate nests in successive years, or nest only every other year (Terres 1991). Pairs rarely re-nest when the first clutch is destroyed (Watson 1997) and there are no records of pairs producing more than one brood per year. Golden eagles prefer to locate their nests on cliffs or trees near forest edges or in small stands near open fields (Bruce and others 1982; Hunt and others 1998). Mating occurs from late January through August, with peak activity in March through July. Eggs are laid from early February to mid-May. Incubation lasts 43–45 days (Kochert and others 2002), and the fledging period is 72–84 days (Johnsgard 1990). The young usually remain dependent on their parents for as long as eleven weeks after fledging.

Golden eagles are a top avian predator in the scrubland, grassland, and woodland ecosystems that make up much of the planning area. They feed mainly on leporids (hares and rabbits) and sciurids (ground squirrels, prairie dogs, marmots), but they also take birds, fish, and reptiles, mostly on or near the ground, and they frequently feed on carrion (Kochert and others 2002). They may directly compete with ferruginous hawks and other smaller hawks for small mammals, and with California condors and common ravens for carrion. Territorial interactions with other golden eagles may result in some fatalities.

Population Status in the Planning Area

There are golden eagle historical occurrences throughout the planning area, but with concentrations in the west Mojave, the region between Victorville and Barstow east on I-15, the Mojave National Preserve, and the eastern portion of Joshua Tree National Park. The BLM identified "Key Raptor Areas" for golden eagles encompassing the Granite, El Paso, Newberry, and Red mountains (Raptor Research Foundation 1989), as well as important occupied habitat in the Clark Mountain Range and Calico Mountains.

A 0.5 mile buffer was placed around known golden eagle nest sites in the vicinity of the alternatives (Figure 3.4-39). Based on this buffer, 28,624 acres would be affected by the proposed action or alternatives (Table 3.4-7).

Table 3.4-7. Acres of Suitable Golden Eagle Habitat based on a 0.5 Mile Buffer Around Known Nest Sites within WEMO Planning Area by Subregion

Subregion	Subregion Abbreviation	Sum of Acres
Afton Canyon	AC	498.1
Barstow	BA	0.1
Sierra	SI	3,455.2
Juniper Flats	JF	212.4
Rattlesnake Canyon	RC	502.6
Wonder Valley	WV	1,664.9
Jawbone	JB	832.0
Middle Knob	MK	636.8
Black Mountain	BM	817.6
Fremont Peak	FP	6.6
Mitchel Mountains	MM	302.9
El Paso	EP	2,214.9
Rands	RA	1,182.1
Red Mountain	RM	502.6
Johnson Valley	JV	2,260.4
Newberry/Rodman	NR	1,261.7
Ord Mountains	OM	4,617.5
Stoddard Valley	SV	7,655.6
Total		**28,624.1**

Regulatory Status

The regulatory status for the golden eagle has been updated from the 2005 WEMO Final EIS (BLM 2005) to include a BLM Sensitive listing in addition to the California: Fully Protected, Species of Special Concern (as described in Section 3.3.6.5, pg. 3-175 of the 2005 WEMO Final EIS (BLM 2005).

Threats

Threats to the golden eagle would not change from the previous analysis provided by the 2005 WEMO Final EIS (BLM 2005) within the planning area. For a discussion of these threats, please refer to Section 3.3.6.5, pg. 3-175.

Gray Vireo

The information from the 2005 WEMO Final EIS (BLM 2005) is supplemented by the following updated information. All other background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.6.6, pp. 3-175 to 3-176 of the 2005 WEMO Final EIS.

Life History

This species is found on arid slopes dominated by short, densely branched, stiff-twigged shrubs. It is migratory, occurring in the western Mojave Desert from early April until mid-August.

Population Status in the Planning Area

Known distribution data for the gray vireo within the WEMO Planning area is depicted in Figure 3.4-40. Within the planning area, the CNDDB identifies approximately 69 acres of element occurrences for this species on BLM lands within the Rands subregion (Table 3.4-3).

Regulatory Status

The regulatory status for the gray vireo has been updated from the 2005 WEMO Final EIS (BLM 2005) to include USFWS bird of conservation concern in addition to the BLM Sensitive and California Species of Special Concern status (as described in Section 3.3.6.6, pp. 3-175 to 3-176 of the 2005 WEMO Final EIS).

Threats

Identified threats include habitat destruction through rural and urban development, off-road vehicle activity during the nesting season, wildland fires, and removal of yuccas and cholla cacti. Grazing has shown both positive and negative effects on this species. Fragmentation of the small remaining populations is a serious long-term threat.

LeConte's Thrasher

The information from the 2005 WEMO Final EIS (BLM 2005) is supplemented by the following updated information. All other background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.6.8, pg. 3-177 of the 2005 WEMO Final EIS.

Life History

The habitat for the LeConte's thrasher is creosote bush scrub with stands of cholla cactus, Joshua trees, and thorny shrubs.

Population Status in the Planning Area

Within the planning area, the CNDDB identifies approximately 9,560 acres of element occurrences for this species on BLM lands (Figure 3.4-41). The amount of acres identified within each subregion is detailed above in Table 3.4-3.

Regulatory Status

The regulatory status for the LeConte's thrasher has been updated from the 2005 WEMO Final EIS (BLM 2005) to include USFWS bird of conservation concern in addition to the California Species of Special Concern status (as described in Section 3.3.6.8, pg. 3-177 of the 2005 WEMO Final EIS).

Threats

The primary threat is loss of habitat and fragmentation of habitat into segments too small to support a viable population in the long term. LeConte's thrashers are sensitive to vehicle traffic during the nesting season, especially off road travel in washes.

Bell's Vireo (Least Subspecies)

The Bell's vireo was not included in the 2005 WEMO Final EIS (BLM 2005), but is considered to potentially occur within the planning area based on recent documentation (Dudek and ICF International 2012) and consultation with BLM biologists. The information presented below is based on the species accounts prepared for the recent March 2012 draft Desert Renewable Energy Conservation Plan baseline biology report (Dudek and ICF International 2012).

Life History

Bell's vireo is a neotropical migrant that breeds in the summer in riparian scrub. This species is largely associated with early successional cottonwood-willow and are known to nest in riparian woodlands dominated by willow (Peterson and others 2004) and Fremont cottonwood (Kus 2002b). Suitable willow woodlands are typically dense with well-defined vegetative strata or layers. The most critical structural component of nesting habitat in California is a dense shrub layer 2 to 10 feet aboveground (Goldwasser 1981; Franzreb 1989; Brown 1993). The presence of water, including ponded surface water or moist soil conditions, may be an important component of nesting habitat (Rosenberg and others 1991). Bell's vireo may forage in scrub or chaparral habitat near nesting habitat (USFWS 1986b).

Breeding least Bell's vireos begin arriving on their breeding grounds in late March and begin nesting in early April (Kus 2002a). Individuals may remain on the breeding grounds into early October, but nesting is typically finished by the end of July (Kus 1999).

Little is known about the migratory routes of this species. Individuals leave the northernmost breeding grounds by August or September (Barlow 1962). Most have left the United States by early October, although some may remain in the LCR Valley until late November (Brown 1993). During spring migration, adults return to their breeding grounds in early to mid-March and reach the northern limits of the breeding range in May (Brown 1993; Kus 1999). Home range and movement during the breeding season is limited to areas within dense riparian corridors.

Population Status in the Planning Area

There are multiple historical occurrences of least Bell's vireo in Inyo County in the northern portion of the planning area, and in the southern portion of the planning area adjacent to the western boundary of Joshua Tree National Park. Recent occurrence records of least Bell's vireo in the planning area in the following areas: near Lancaster and Palmdale, north of Hesperia, north of Victorville, and southwest of Yucca Valley (CDFW 2012b; Dudek 2011).

Within the planning area, the CNDDB identifies approximately 1,469 acres of element occurrences for this species on BLM lands (Figure 3.4-42). The amount of acres identified within each subregion is detailed above in Table 3.4-3.

Regulatory Status

The least Bell's vireo is both Federally listed and California state listed as endangered. Bell's Vireo is also listed as a Bird of Conservation Concern by the USFWS within the Mojave Desert Bird Conservation Regions (USFWS 2008a). Critical habitat is not found within the study area for this species.

Threats

Historical loss of riparian habitat due to agricultural practices, urbanization, off-road vehicular activity, and exotic plant invasion has contributed to decline of the species (USFWS 2006a, Wildlife Action Plan Team 2006). Loss of breeding habitat due to water source alteration (e.g., channelization, urbanization, and firewood cutting) also threatens the species. In addition, nest parasitism by the brown-headed cowbird has greatly reduced nest success throughout most of its breeding range and has been suggested as a primary cause for decline throughout California. In urbanized areas, where habitat is fragmented and breeding habitat lacks buffers, nest predation may also increase due to meso-predator release and the addition of non-native predators such as domestic or feral cats (USFWS 2006a). The Argentine ant (*Linepithema humile*) also has been noted as a potential nest predator (Peterson and others 2004).

Swainson's Hawk

The Swainson's hawk was not included in the 2005 WEMO Final EIS (BLM 2005), but is considered to potentially occur within the planning area based on recent documentation (Dudek and ICF International 2012) and consultation with BLM biologists. The information presented below is based on the species accounts prepared for the recent March 2012 draft Desert Renewable Energy Conservation Plan baseline biology report (Dudek and ICF International 2012).

Life History

Swainson's hawks are primarily a grassland bird but they are also found in sparse shrubland and open woodlands (England and others 1997). In Central California Swainson's hawks are primarily associated with grain and hay croplands that mimic native grasslands with respect to prey density and availability (Estep 1989, Babcock 1995). They generally nest in isolated trees, narrow bands of vegetation, or along riparian corridors in grassland, shrubland, and agricultural landscapes. Historically, Swainson's hawks nested in small willows or aspens remnant from wildfire or bison grazing, or in riparian areas (especially in California). Within the planning area, Joshua trees and non-native ornamental trees or trees planted as windbreaks also function as nest sites (CEC and CDFW 2010).

Swainson's hawks arrive on the breeding grounds in March in Central California (Fitzner 1980). Young generally fledge mid-July to mid-August at an average age of 43 days (Olendorff 1973, Fitzner 1980, Woodbridge 1987).

Migratory movements occur annually between North American breeding grounds and wintering areas primarily located in South America, although some Swainson's hawks use wintering grounds in California and Mexico (Fuller and others 1998, England and others 1997, Wheeler 2003, Bradbury unpublished data). Immature birds and post-breeding adults begin forming migration flocks in August and September, and begin the fall migration in September. Birds migrating to South America leave North America by October and arrive in Argentina in November (England

and others 1997). The return migration begins late-February and early March in Argentina (England and others 1997), with birds arriving in California from early March (Central Valley) through April (other California populations).

Population Status in the Planning Area

There are multiple historical occurrence records in the planning area located east of Lancaster, north of Fremont Wash and east of SR 395 (CDFW 2012b; Dudek 2011). Recent Swainson's hawk breeding populations inside the planning area have occurred in the Antelope Valley and Owens River Valley. The vast majority of these occurrences are clustered in the western Mojave region along the base of the San Gabriel and Tehachapi mountain ranges and in Antelope Valley. Scattered occurrences are located in the Fremont Valley and the Ridgecrest/China Lake Naval Air Weapons Station.

Known distribution data for Swainson's hawks within the WEMO Planning area is depicted in Figure 3.4-43. Within the planning area, the CNDDB identifies approximately 69 acres of element occurrences for this species on BLM lands within the Sierra subregion (Table 3.4-3).

Regulatory Status

The Swainson's hawk is California state listed as threatened and is also listed as a Bird of Conservation Concern by the USFWS within the Mojave Desert Bird Conservation Regions (USFWS 2008a).

Threats

Threats to this species include historical loss of riparian habitat due to agricultural practices, urbanization, and contracting range of Joshua trees and riparian habitats in the Mojave Desert (Bloom 1980). Chronic and acute pesticide poisoning also affects the Swainson's hawk (Goldstein et al. 1996, Risebrough et al. 1989).

3.4.3.2.3 Reptiles

Desert Tortoise

The information from the 2005 WEMO Final EIS (BLM 2005)is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012). All other background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.2, pp. 3-69 to 3-144 of the 2005 WEMO Final EIS.

Life History

The desert tortoise can be found in a wide variety of habitats, such as alluvial fans, washes, canyons, and saltbush plains (Coachella Valley Conservation Commission 2007; Woodbury and Hardy 1948; Lovich and Daniels 2000; USFWS 1994). Occupied habitat for populations in the Western Mojave Desert includes valleys, bajadas, and hills with sandy loams to rocky substrates (Germano and others 1994). The vegetation mostly consists of low growing sclerophyll shrubs with mostly winter germinating annuals (Germano and others 1994). Whereas most tortoises in the Mojave Desert are usually associated with creosote bush (*Larrea tridentata*) scrub on alluvial fans

and bajadas (USFWS 2008), they can also be found in Saltbush scrub (*Atriplex* spp.) (Stewart 1991) and even in some man-made structures, such as artillery mounds (Baxter 1988).

The presence of shrubs in tortoise habitat is extremely important. Shrubs not only supply shade for the tortoises during hot weather (Marlow 1979), but also the roots provide support and protection for tortoise burrows. For instance, near Twentynine Palms, California, 71% of desert tortoise burrows were associated with creosote bush, and desert tortoises avoided the only community without creosote bush (Baxter 1988). However, other investigators found that burrows were not significantly closer to creosote bush than random sites in areas with vegetation representing both Mojave and Sonoran affinities. Burrows were significantly farther from yucca (*Yucca* spp.) than random sites (Lovich and Daniels 2000). In still another case, burrows were associated with Mojave yucca (*Yucca schidigera*) and catclaw acacia (*Acacia greggii*) even though these species were not particularly abundant (Burge 1978). Wilson and others (1999) found that most juvenile burrows were associated with shrubs. These studies point out that utilization of shrubs varies with the location of the study site; nevertheless, shrubs provide important resources for the desert tortoise.

Several studies have also shown that edaphic (soil) conditions are important for desert tortoises. Tortoises spend up to 98% of their lives underground (Nagy and Medica 1986). Where soils are so sandy that they cannot support the roof of a burrow, tortoises are unlikely to utilize the area (Baxter 1988). In a multivariate analysis of tortoise abundance criteria, Weinstein and others (1986) indicated that "soil digability" is a significant regression variable (i.e., this variable accounted for a significant amount of the variance in habitat use). Conversely, if a caliche horizon (a hardened deposit of calcium carbonate) is present, it may be so hard that tortoises cannot successfully burrow under it. For instance, at the Twentynine Palms Marine base, Baxter (1988) found that every "tank pit" supported tortoise burrows, most often located just under the hardpan.

Desert tortoises are herbivores, and wildflowers, grasses, and in some cases, cacti make up the bulk of their diet (USFWS 2010e; Woodbury and Hardy 1948). Some of the more common herbaceous species utilized by the desert tortoise include desert dandelion (*Malacothrix glabrata*), primrose (*Oenothera* spp.), gilia (*Gilia* spp.), showy desert- marigold, and filaree. Additionally, tortoises may eat some grasses, such as Indian rice grass (*Oryzopsis hymenoides*) or galleta grass (*Hilaria rigida*), although the nutritional value may be less. Also, tortoises are known to eat some cacti such as prickly pear (*Opuntia mohavensis*), beavertail (*Opuntia basilaris*), and various cholla cacti (*Opuntia* spp.). Spring desert annuals and grasses are particularly important in that they supply tortoises with much needed water (USFWS 2010e), which can be stored by desert tortoises for long periods of time (Marlow 1979; Woodbury and Hardy 1948). In Twentynine Palms, California, desert tortoises were found in plant communities with high plant species diversity, such as washes and ecotones between communities (Baxter 1988). Although tortoises were captured more frequently in the diverse wash community—significantly more than expected based on a random distribution—this could be a result of higher visibility to the surveyors in these areas. Nevertheless, their burrows were also significantly closer to ecotones than a set of random points. The use of these high plant diversity areas may therefore be related to increased food availability or possibly the nature of the annual herbs found in these areas.

In addition to the description of tortoise activity presented in the 2005 WEMO Final EIS (BLM 2005) (3.3.2.3, pp. 3-73 to 3-74), tortoise activity is focused on its home range and is primarily determined by temperature (USFWS 1994). Nevertheless, some relocated tortoises have moved significant distances from their release point, including crossing major highways (Stewart 1991).

Duda and others (1999) found that tortoise home ranges tend to shrink during periods of drought compared to years of high rains. Following winter hibernation, tortoises become active as low temperatures abate in the spring months. During the spring, tortoises are active throughout the day, foraging on the fresh shoots of annual plants. But as the heat continues to increase into the summer months, tortoises are active only in the cooler morning, late afternoon, and evening hours. During the hot daytime temperatures, tortoises retreat to burrows to wait it out or, in some cases, will aestivate through the summer.

In addition to the description of tortoise activity presented in the 2005 WEMO Final EIS (BLM 2005) (3.3.2.3, pp. 3-75 to 3-76), the desert tortoise breeds in the late summer and fall, before going into hibernation for the winter. Males will "joust" to establish loosely defined home ranges, but these can overlap and are not exclusive. Home range size can vary dramatically, from 10 to over 450 acres (USFWS 1994). Females begin breeding at about 15 to 20 years of age, and will store the male's sperm (Gist and Fisher 1993; Turner and Berry 1984). Egg laying occurs in the spring, but occasionally may also take place in the fall. Incubation is typically about 100 days, with the eggs hatching in the late summer and early fall. There is little or no parental care of the nest or the young. The sex of the offspring is determined by the incubation temperature; females being hatched at higher ground temperatures (above 89°F) while males are hatched below this temperature (Spotila and others 1994). Desert tortoises can produce from one to three clutches of eggs per year. On rare occasions, clutches can contain up to 15 eggs; most clutches contain 3 to 7 eggs, with an average clutch size of 4.5 eggs (Turner and others 1984, 1986).

The desert tortoise is a primary consumer; that is, they feed on plants. As such, they compete for vegetation resources with other primary consumers, such as the desert iguana, Gambel's quail, mourning dove (*Zenaida macroura*), pronghorn antelope, and domestic cattle (*Bos taurus*). Adult tortoises are preyed on by few other animals; however, some may be taken by coyote and kit fox. Young tortoises are routinely preyed upon by kit fox and common raven.

Desert tortoise burrows supply important shade and thermoregulatory resources for a variety of species, including many species of snakes, insects and spiders, and small mammals.

Population Status in the Planning Area

It is anticipated that the desert tortoise will occur throughout the planning area, although its abundance may vary locally due to habitat characteristics, including anthropocentric disturbances. In addition to the information detailed in Section 3.3.2.4 (Subsections 3.3.2.4.1 to 3.3.2.4.2), pp. 3-76 to 3-91, historical information for the Mojave population densities or abundance does not exist to provide a baseline for population trends (USFWS 2008e). Long-term study plots and other studies, however, suggest "appreciable declines" at the local level in many areas, and that the identified downward trend of the species in the western portion of the range at the time of the federal listing as threatened in 1990 was valid and is ongoing (USFWS 2008e). Results of studies in other parts of the Mojave population's range also are inconclusive, but suggest that declines are broadly distributed across the desert tortoise's Mojave Desert range (USFWS 2008e). In addition, specific management actions over a 23-year monitoring program have not demonstrated a substantial positive effect on populations, although the life history of the species (i.e., delayed reproductive maturity, low reproductive rates, and relatively high mortality early in life) is such that rapid increases in populations are unlikely to be observed (USFWS 2008e). The population of desert tortoise in the West Mojave Recovery Unit, which encompasses the WEMO planning area, shows a downward trend. See *Status of the Desert Tortoise and Critical Habitat*,

http://www.fws.gov/nevada/desert_tortoise/documents/misc/status-desert-tortoise.pdf posted 02/10/2014.

Approximately 983,258 acres of designated Critical Habitat exists within the planning area (Table 3.4-8 and Figure 3.4-44).

Table 3.4-8. Acres of Desert Tortoise Designated Critical Habitat on BLM Lands within the WEMO Planning Area per Subregion

Subregion	Subregion Abbreviation	Sum of Acres
Afton Canyon	AC	2.2
Barstow	BA	639.0
Black Mountain	BM	91742.6
Calico Mountains	CM	29131.7
Coolgardie	CG	81478.2
Cronese Lake	CL	81754.0
El Mirage	EM	26933.8
El Paso	EP	67.8
Fremont Peak	FP	72849.4
Harper Lake	HL	27275.0
Iron Mountain	IM	8499.9
Johnson Valley	JV	4953.3
Joshua Tree	JT	102680.3
Kramer Hills	KH	65661.5
Lancaster	LA	1369.1
Mitchel Mountains	MM	13925.4
NA[1]	NA	667.8
Needles South	NE	1197.2
Newberry/Rodman	NR	101325.6
Ord Mountains	OM	106574.2
Rands	RA	52676.2
Red Mountain	RM	111357.0
Stoddard Valley	SV	0.2
Victorville	VV	497.2
Total		**983258.4**

[1]NA = BLM lands outside designated subregion boundaries within the WEMO planning area.

Additionally, DWMAs located within the planning area will be used to analyze potential effects to the desert tortoise. The planning area includes approximately 1,045,702 acres of DWMAs (Table 3.4-9 and Figure 3.4-44).

Table 3.4-9. Acres of Desert Tortoise DWMA Habitat on BLM Lands within the WEMO Planning Area per Subregion

Subregion	Subregion Abbreviation	DWMA Name	Sum of Acres
Afton Canyon	AC	Superior-Cronese DWMA	2.2
Barstow	BA	Ord-Rodman DWMA	653.8
		Superior-Cronese DWMA	0.0
Broadwell Lake	BL	Pinto Mountains DWMA	346.2
Joshua Tree	JT	Pinto Mountains DWMA	109,092.0
Wonder Valley	WV	Pinto Mountains DWMA	2.1
Lancaster	LA	Fremont-Kramer DWMA	1,365.9
Black Mountain	BM	Fremont-Kramer DWMA	856.1
		Superior-Cronese DWMA	90,886.4
Calico Mountains	CM	Superior-Cronese DWMA	29,330.8
Coolgardie	CG	Superior-Cronese DWMA	81,502.8
Cronese Lake	CL	Superior-Cronese DWMA	81,655.7
Fremont Peak	FP	Fremont-Kramer DWMA	70,793.6
		Superior-Cronese DWMA	2,063.7
Harper Lake	HL	Fremont-Kramer DWMA	403.8
		Superior-Cronese DWMA	40,718.5
Mitchel Mountains	MM	Superior-Cronese DWMA	13,892.9
El Mirage	EM	Fremont-Kramer DWMA	30,069.9
Iron Mountain	IM	Fremont-Kramer DWMA	8,482.0
		Superior-Cronese DWMA	11,230.5
Kramer Hills	KH	Fremont-Kramer DWMA	65,659.7
Victorville	VV	Fremont-Kramer DWMA	394.2
El Paso	EP	Fremont-Kramer DWMA	0.1
Rands	RA	Fremont-Kramer DWMA	73,736.9
Red Mountain	RM	Fremont-Kramer DWMA	60,442.6
		Superior-Cronese DWMA	54,216.8
Ridgecrest	RI	Fremont-Kramer DWMA	2.3
Johnson Valley	JV	Ord-Rodman DWMA	168.3
Newberry/Rodman	NR	Ord-Rodman DWMA	101,453.8
Ord Mountains	OM	Ord-Rodman DWMA	116,278.0
Stoddard Valley	SV	Ord-Rodman DWMA	0.2
Total			**1,045,701.7**

The BLM, with assistance from the Desert Tortoise Preserve Committee, established the Desert Tortoise Natural Area (DTNA) in 1976. The DTNA is managed to protect this unique habitat in its natural state, free from conflict with other land uses. Located in the western Mojave Desert in northeastern Kern County, the DTNA was designated as an ACEC in 1980 through the California

Desert Conservation Area Plan. The total area encompasses over 25,000 acres of public land. Approximately 22,216 acres of the DTNA ACEC are located within the Rands subregion of the planning area (Figure 3.4-44). It has one of the highest known densities of desert tortoises per square mile in the species' geographic range (California, Utah, Nevada, Arizona and northwest Mexico). Tortoise populations are from 100 to 200 per square mile in some parts of the DTNA.

Regulatory Status

The information from the 2005 WEMO Final EIS (BLM 2005) (Section 3.3.2.1, pg. 3-69), is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012).

The Agassizi's desert tortoise (*Gopherus agassizii*) (hereafter simply referred to as desert tortoise) is both a California state- and Federally listed threatened species. Critical habitat for desert tortoise was first designated for the Beaver Dam Slope (Utah) population in 1980 (45 FR 55654–55666). An initial recovery plan for the Mojave population of the desert tortoise was completed in 1994 (USFWS 1994). A revised draft recovery plan was completed in 2008 (USFWS 2008e) and finalized in 2011 (USFWS 2011).

Under the 2011 Recovery Plan (USFWS 2011), a revision of the desert tortoise recovery units was made reducing the initial six units to five based on recent genetic work (Murphy and others 2007; Hagerty and Tracy 2007). The principal changes are results of combining and expanding the previous northern Colorado and eastern Colorado units into one (i.e., Colorado Recovery Unit), a contraction of the Eastern Mojave Recovery Unit, an appurtenant expansion of the Northeastern Recovery Unit, and a contraction of the southern extreme of the Western Mohave Recovery Unit in the vicinity of the Coachella Valley.

Threats

Threats to desert tortoises within the WEMO Planning Area have not changed from the previous analysis provided by the 2005 WEMO Final EIS (BLM 2005) and associated 2006 Biological Opinion, except as discussed herein. For a discussion of these threats, please refer to the 2006 Biological Opinion in Appendix F.

Mojave Fringe-toed Lizard

The information from the 2005 WEMO Final EIS (BLM 2005)is supplemented by the following updated information from the DRECP Baseline Biology Report (March 2012). All other background information for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of these species, please refer to Section 3.3.7.1, pp. 3-182 to 3-183 of the 2005 WEMO Final EIS.

Life History

The Mojave fringe-toed lizard is best described as an opportunistic omnivore. They feed primarily on sand-dwelling insects, but will also feed on the flowers, leaves, and seeds of annual plants (Jarvis 2009). Juvenile Mojave fringe-toed lizards feed primarily on arthropods including ants, beetles, and scorpions. As is seen in many reptiles that live in arid environments, these lizards obtain most of their water from the insects and plants that they ingest (76 FR 61321–61330).

Mating typically occurs between April and late June (76 FR 61321–61330). Reproductive activity is highly dependent on the availability of sand-dwelling plants that grow in response to winter (October–March) rainfall (76 FR 61321–61330). Clutch size ranges from two to five eggs, but average two or three eggs (Miller and Stebbins 1964). During years with low rainfall females produce smaller clutch sizes, or none at all. Conversely, they may have multiple clutches in years with abundant rainfall (76 FR 61321–61330).

Mojave fringe-toed lizards are most active from late spring through early fall, when they are active during the hotter periods of the day. They seek refuge in burrows or under the sand when daytime surface temperatures start to exceed 49°C (120°F).

Population Status in the Planning Area

The Mojave fringe-toed lizard is known to occur at more than 35 sand dune complexes in California and one in Arizona, all of which are naturally occurring within the species' historical range (76 FR 61321–61330; Norris 1958).

Historically, this species was known to occur throughout the windblown sand areas in the following counties within the planning area: southern Inyo, San Bernardino, northern Los Angeles, and eastern Riverside. Within these counties, this species was known to occur within the present and historical river drainages and associated sand fields of the Mojave, Amargosa, and Colorado rivers (Jarvis 2009).

Since 2006, Mojave fringe-toed lizards have been found in locations within the Amargosa River drainage that did not have any historical occurrence records. As described above, this species is currently found within more than 35 named and unnamed sand dune complexes within the three major river drainages in the planning area:, Mojave, and. Norris (1958) described 31 dune complexes. However, a more recent paper by Murphy and others (2006) documents the extirpation of the species at four sites where they were previously reported (i.e., Harper and El Mirage dry lakes, Piute Butte, and Lovejoy Buttes).

Within the planning area, the CNDDB identifies approximately 25,492 acres of element occurrences for this species on BLM lands (Figure 3.4-45). The amount of acres identified within each subregion is detailed above in Table 3.4-3. In addition, approximately 22,161 acres has been designated as the Mojave Fringe-toed Lizard ACEC to protect the plant (Figure 3.4-45). The amount of Mojave Fringe-toed Lizard ACEC acres identified within each subregion is detailed in Table 3.4-10.

Table 3.4-10. Acres of Mojave Fringe-toed Lizard ACEC Occurrence within the WEMO Planning Area per Subregion

Subregion	Subregion Abbreviation	Sum of Acres
Afton Canyon	AC	4,173.0
Barstow	BA	3,337.1
Broadwell Lake	BL	12,013.0
Joshua Tree	JT	1,417.9
Wonder Valley	WV	1,220.1
Total		**22,161.1**

Spring field surveys were conducted in 2012 and 2013 on eight parcels within the Mojave fringe-toed lizard Area of Critical Environmental Concern (ACEC) within the WEMO Planning Area. The latest of these surveys was conducted between May 8 and May 31, 2013. The eight parcels are located in five geographic areas (Yermo-3 parcels, Manix-3 parcels, Rasor, and Twentynine Palms). The survey results for 2012 and 2013 are listed in Table 3.4-11.

Table 3.4-11. Comparison of Mojave Fringe-toed Lizard 2012 and 2013 Survey Transects and Detections for Parcels of Land Located within the Mojave Fringe-toed Lizard ACEC

Location	2012 Number of Transects	2013 Number of Transects	2012 Number of Detections	2013 Number of Detections
Yermo 1	4	5	3	0
Yermo 2	2	2	0	0
Yermo 3	4	1	3	1
Manix 1	0	1	n/a	0
Manix 2	0	1	n/a	0
Manix 3	0	5	n/a	2
Rasor	0	1	n/a	0
Twentynine Palms	0	5	n/a	4

Mojave fringe-toed lizards were encountered at four of the eight parcels in one or both years. Mojave fringe-toed lizards were not detected at Yermo Parcel 2 in 2012 or 2013. Three other parcels were not surveyed in 2012 and had no detections in 2013. In all, 16 Mojave fringe-toed lizards and 25 Zebra tailed lizards were detected on the sites during the two survey periods. In addition, seven Mojave fringe-toed lizards were encountered off transect during surveys of the ACEC parcels.

Four other parcels of potential Mojave fringe-toed lizard habitat were surveyed for presence/absence in spring, 2013 (Table 3.4-12). These sites were identified as potential habitat locations by United States Fish and Wildlife Service (USFWS) as part of their 2012 Mojave fringe-toed lizard Endangered Species Act listing decision. Two (Edwards North and Cuddeback Dry Lake Bed) of the four parcels did not contain suitable habitat for the Mojave fringe-toed lizard. Big Rock Creek Wash and Piute Butte parcels contained suitable habitat, but no Mojave fringe-toed lizards or sign were observed (Table 3.4-12).

Table 3.4-12. 2013 Surveys for Mojave Fringe-Toed Lizards in Potentially Suitable Habitat in the WEMO Planning Area

Location	Description	Results
Edwards North	An isolated 112-acre parcel along CA-58 and the northern boundary of Edwards Air Force Base that was identified by USFWS.	Approximately 12.5 acres were surveyed at this location on the morning of May 31, 2013, and no suitable habitat was found. The area consists of creosote and salt bush assemblage dispersed between unvegetated compacted soil flats, which could potentially resemble dunes from aerial imagery.
Cuddeback Dry Lake Bed	Approximately 2,200 acres along the northern and eastern edges of Cuddeback Dry Lake was identified as potential habitat by USFWS.	Approximately 25 acres were surveyed at this location on the morning of May 31, 2013, and no suitable habitat was found. The area consists of largely salt bush scrub assemblages adjacent to barren playa, with no low-compaction wind-blown sand deposits.
Big Rock Creek Wash	Big Rock Creek Wash is a highly diverse wash extending 20 miles north from the San Bernardino National Forest. USFWS designated approximately 8 miles of the wash as potential Mojave fringe-toed lizard habitat as it is within close proximity to extirpated sites such as Saddleback Butte State Park to the northeast, and BLM manages a 300 acre parcel adjacent to the wash.	Approximately 10 acres were surveyed on the morning of June 6, 2013, however no Mojave fringe-toed lizards or significant sign was observed. The wash is composed of granitic fluvial sands, interspersed with gravel and rocks, and is not composed of the loose Aeolian sand deposits required for Mojave fringe-toed lizard occupancy.
Piute Butte	A 250 acre parcel on Piute Butte, directly adjacent to the Antelope Valley Indian Museum, which was designated as extirpated for Mojave fringe-toed lizard by USFWS. This site contains ideal dune and blow-up habitat; however, the lizards have most likely become locally extirpated due to environment conditions due to successive years of intense drought.	Approximately 12 acres were surveyed around the edge of the parcel on the morning of June 6, 2013, and no Mojave fringe-toed lizards or sign was observed.

Regulatory Status

The regulatory status for the Mojave fringe-toed lizard has been updated from the 2005 WEMO Final EIS (BLM 2005) to include BLM Sensitive in addition to the California Species of Special Concern status (as described in Section 3.3.7.1, pg. 3-182 of the 2005 WEMO Final EIS (BLM 2005).

Threats

Threats to the Mojave fringe-toed lizard would not change from the previous analysis provided by the 2005 WEMO Final EIS (BLM 2005) within the planning area. For a discussion of these threats, please refer to Section 3.3.7.1, pp. 3-182 to 3-183.

Northern Sagebrush Lizard

Life History

The sagebrush lizard occurs in a wide variety of open forest and shrub habitat types and utilizes mammal burrows and rock crevices as hibernation sites during cold periods (Zeiner, D.C. et al 1988-1990). Individuals are active from March or April to late September or early October (Zeiner, D.C. et al 1988-1990). The reproductive season usually extends from late May to July (Zeiner, D.C. et al 1988-1990). Egg-laying usually occurs in June or July (Stebbins 1954) with newly emergent hatchlings observed from mid-August to late September (Zeiner, D.C. et al 1988-1990).

Population Status in the Planning Area

This species is widely distributed in montane chaparral, hardwood and conifer habitats, eastside pine and juniper habitats, and Great Basin shrub habitats of the Cascades and Sierra Nevada, and also east of the Sierra-Cascade crest in northern California (Zeiner, D.C. et al 1988-1990). Isolated populations exist at Sutter Buttes in the Sacramento Valley, in the Coast Ranges along the entire length of the state, in the mountains of southern California, and in the desert mountains of Inyo County. Elevation: 900-3200 m (3000-10,400 ft) (Zeiner, D.C. et al 1988-1990).

Known distribution data for the sagebrush lizard within the WEMO Planning area is depicted in Figure 3.4-46. Within the planning area, the CNDDB identifies approximately 10 acres of element occurrences for this species on BLM lands within the Sierra subregion (Table 3.4-3).

Regulatory Status

The sagebrush lizard is a BLM Sensitive species.

Threats

Threats to this species have not been identified for the planning area, but would most likely be similar to those described for the Mojave fringe-toed lizard including loss of habitat, an increases in local predator (i.e., common ravens), and OHV activities.

3.5 Socioeconomics and Environmental Justice

Within the WEMO Planning area, BLM is the steward of a variety of resources of economic and social importance to the community, including: mineral resources; renewable energy resources; locations that are amenable to be used as communication sites; recreation areas; and biological, cultural, wilderness, and other values which attract tourists to the area. Each of these resources, in turn, has the potential to affect, or be affected by, the area's travel management network. Increase in economic activity associated with any of these resources could result in increasing access needs, as well as increased pressure towards route proliferation. This socioeconomic analysis focuses on how use of these resources in the planning area is changing, and the effect that those changes are expected to have on future access needs.

3.5.1 Regional Economic Profile

The following information pertaining to existing economic and demographic conditions in the planning area is excerpted from the Socio-Economic Analysis developed for the 2005 WEMO Final EIS prepared by Alfred Gobar and Associates. Those data have been supplemented by being revised to reflect updated U.S. Census Bureau data, and additional discussion focusing on the role of access has been added. The complete socio-economic technical report is contained in Appendix N of the 2005 WEMO Final EIS. In addition, the presentation of the information in this section has been revised from that previously provided in the 2005 WEMO Final EIS by being focused on the role of access.

Encompassing nearly 9.4 million acres, the planning area is a substantial geographic region. This large study area includes over 974,000 residents per 2008-2012 ACS data, and encompasses portions of five separate counties. Motor vehicle access through such a large area is key to providing regional connectivity in such a dispersed area. The vast majority of travel is funneled to key arterial Interstates, highways and County roads, but access drives connectivity and commerce through all parts of the planning area, both for area residents and for all of Southern California.

In totality, the West Mojave's existing population base is significant, but also widely dispersed in scattered concentrations ranging from as few as less than 30,000 residents in the Barstow and Ridgecrest areas to more than 300,000 in the Palmdale-Lancaster area of Los Angeles County and the Victor Valley area of San Bernardino County. Given the large geographic area and widely dispersed population, motorized vehicle access is the key to maintaining regional connectivity across the area. The vast majority of motorized vehicle travel in the area is based on funneling traffic from dispersed areas into a few major arteries including interstate highways, State highways, and County roads. The planning area services this burgeoning, but widely dispersed, population that has, and uses the high desert as its recreational backyard.

Regional Environment

The WEMO planning area is also situated along the periphery of Southern California and its huge metropolitan population and employment base. Overall economic growth and trends throughout the WEMO Planning area are still greatly influenced and driven by growth and economic trends associated with the larger economic region of Southern California. The six-county Southern California region (Los Angeles, Orange, San Diego, San Bernardino, Riverside, and Ventura counties) had 21 million residents and 11 million nonagricultural wage and salary jobs in 2010.

A large number of workers residing in outlying areas, including the West Mojave planning area, commute to jobs in the more developed regions of Southern California because of the high volume of employment opportunities. Growth in employment throughout Southern California is one of the principal factors driving demand for living in outlying sub-regions, such as the West Mojave. Recent census data from 2010 strongly suggest that population and housing growth throughout the West Mojave was substantially concentrated within cities and unincorporated enclaves located closest to the major employment centers of Southern California. As a result, the WEMO Planning area population base has not been considered a self-generating economy even though certain industries such as aerospace, mining, military and government operations have long provided local employment to area residents.

This is rapidly changing. In 2000, about one in five workers residing in cities throughout the West Mojave commuted at least 60 minutes each way to work. In 2010, the average commute time in cities throughout the West Mojave was 29.5 minutes. The rapid growth of high desert cities has created an economy that is sustaining itself, but still relies to a large extent on the influx of dollars from other Southern California areas.

The planning area provides the major connecting corridor between the Southern California area and two other key metro areas—the Las Vegas metro area and the Central Valley of California. Recreation-, service- and tourism-sector jobs in the planning area are largely influenced by the economic conditions in Southern California and these other metro areas. Other jobs in the high desert continue to service these metro populations, such as energy generation and transmission, and mining.

Between 1980 and 2010 nonagricultural employment in Southern California grew 88.0 percent from 5.85 million jobs in 1980 to 11.0 million in 2010, outpacing the national growth rate. U.S Growth nonagricultural employment growth over this same time period was 58.0 percent. Aggregate employment has grown at a slower rate in absolute and relative terms since 1990 as a result of significant job losses during the early 90's. The overall slower pace of employment growth is indicative of broader trends describing the outlook of future economic growth in the region.

Regional Trends in Population and Employment

A wide variety of socioeconomic factors can be evaluated with regards to growth trends, but changes in population, employment, and housing tend to reflect principal drivers of urbanization and associated economic activity, and these in turn affect and are affected by the transportation network.

Total population within the six-county region of Southern California, plus Kern County, grew by 8.0 million residents over the 30-year period from 13.8 million residents in 1980 to 21.8 million residents in 2010. The resident population of Inyo County has remained relatively static since 1980 (about 18,000 residents) and is not explicitly evaluated in relation to regional trends since it hosts roughly 600 residents, or less than 0.1 percent of the WEMO population.

The total population throughout Southern California grew at an average annual rate of 1.93 percent. Los Angeles County continues to account for the largest share of the population in Southern California. The pattern of growth, however, is shifting and outlying sub-regions are capturing a greater share of total growth. Since 1980, outlying counties such as Riverside, San Bernardino, and Kern County have steadily increased their respective share of total population.

As shown in Table 3.5-1, nonagricultural employment trends since 1970 has followed population growth in the planning area. Agriculture (including grazing activities) and mining have a long history in the WEMO Planning area, but account for less than 1 percent of current employment opportunities. Non-agricultural employment correlates better than total employment with household formation, associated housing demand, and population growth since a large segment of agricultural employment is transient and seasonal with limited capacity to occupy market rate housing. Non-agricultural employment growth will constitute a principal force driving future housing growth and urbanization in the WEMO Planning area. Employment directly associated with recreation accounts for about 2 percent of total service-based employment, but is growing. Accommodation and food services are a much larger proportion of total service-based employment, and are increasing at a faster rate than other sectors. While most of the services employment is expected to support the local population and through travelers, some proportion of it is also related to recreation and motorized vehicle access on public lands in the West Mojave, which accounts for about 1 percent of current employment opportunities or about 2,500 jobs in the area.

Factors that augment the current employment base of the WEMO Planning area include a higher proportion of service and trade sector jobs (consistent with rural and emerging growth areas). The WEMO Planning area also has a moderately higher mix of government jobs, reflecting the historical role of federal and state agencies in the region. The manufacturing base within the WEMO Planning area is significantly underrepresented by comparison to the broader Southern California economy.

Table 3.5-1. WEMO Planning Area Employment Since 1970

Sector	1970	1980	1990	2000	2011	Change 1970-2011 (%)	Change 1990-2011 (%)
Farm/Agriculture Services	31,611	46,428	42,019	68,182	52,503	66	25
Mining	8,324	14,017	17,009	11,427	15,667	37	-8
Construction	15,924	29,521	58,625	60,851	61,308	282	5
Manufacturing	41,808	49,945	65,849	86,538	65,740	57	-<1
Services	119,657	294,705	470,470	634,888	814,242	580	73
Government	103,363	122,057	160,440	178,983	199,450	93	24

Source: EPS-HDT 2013

Not only is total employment in Southern California slowly increasing, but the outlying areas which comprise the WEMO Planning area are capturing larger shares of the growth. In 1980, Los Angeles County accounted for 62.1 percent of nonagricultural employment throughout the Southern California region, including Kern County. In 2010, Los Angeles County's respective share was down to 47.3 percent. By comparison, San Bernardino County captured an increasing share of employment (from 4.2 percent in 1980 to 7.2 percent in 2010), while the corresponding share for Kern County has remained relatively constant (2.9 percent). Both Riverside and San Bernardino County are commonly recognized as a single metropolitan statistical area (Inland Empire) for purposes of tracking socio-economic trends. On the basis of this definition, the Inland Empire has led Southern California in net employment gains since 1990 (314,400 jobs). As these

trends suggest, the proportionate share of nonagricultural employment growth has been shifting over the 30-year reference period, principally from Los Angeles County to the other six counties. As detailed in Table 3.5-1, a large amount of the nonagricultural employment growth has taken place in the projected area, as is evidenced by the elevated gains in employment over the past decades.

Since the CDCA Plan was approved in 1980, the livestock industry in the California Desert has undergone major decline, especially in the last 10 years. Most of the grazing operations on public land within the planning areas are small family operations. As the permittee or lessee has aged and is less able to run their grazing operation stocking rates have typically declined. Unless a younger family member or partner is capable of maintaining the grazing operation, in addition to stocking rates declining, fewer range improvements are maintained and usually no new range improvements are developed. This trend has been especially hard on the sheep industry. Very few sons or daughters follow in their parent's footsteps and continue family sheep operations. Overall, the AUMs that BLM may annually authorize under good conditions has decreased from its peak of nearly 40,000 AUMs in 1992 to less than 2,000 in 2013.

The cattle and sheep markets have also experienced substantial fluctuations over the past 30 years. These markets have a great deal of influence on family incomes and fluctuations in stocking rates. The overall costs of running a grazing operation has nearly doubled over the past 30 years while market returns have been fairly static along with BLM grazing fees.

Study Area Demographics

The demographic characteristics of the eleven incorporated cities which make up the WEMO Planning area are shown in Table 3.5-2.

The West Mojave extends across large portions of four Southern California counties (Los Angeles, San Bernardino, Kern, and Inyo), which all combined have 12.7 million residents (2010 Census) or nearly 37.2 percent of the Statewide population (34.1 million residents). Demographic characteristics describing an area are most often compared to corresponding characteristics describing a larger geographic setting of which it is a part. Roughly 80 to 90 percent of all residents within Southern California, however, reside in areas that are substantially more developed and urbanized than is the case with the WEMO Planning area.

Typical population densities generally range from roughly 2,500 persons per square mile in growing suburban areas to more than 7,500 persons per square mile in urbanized areas. By comparison, the corresponding population density for the eleven WEMO Planning area cities combined (accounting for 71 percent of the planning area population base) only averages about 865 persons per square mile (726,482 residents in 2010 divided by 840 square miles). The Census Bureau utilizes a minimum threshold of 1,000 persons per square mile to denote an urbanized setting. The WEMO Planning area is more characteristic of a large rural environment. As such, demographic traits that describe the WEMO Planning area reflect distinctly different circumstances than is true for more urbanized portions of Southern California, thereby minimizing the usefulness of direct comparisons. Instead, the State of California, which includes a sizeable rural population, serves as a more appropriate reference for comparing overall distinctions describing WEMO Planning area residents.

Table 3.5-2. 2010 Census Demographic Comparison, Incorporated Cities Within West Mojave Plan Region

Census Variable	Combined Cities	City of Adelanto	Town of Apple Valley	City of Barstow	City of California City	City of Hesperia	City of Lancaster	City of Palmdale	City of Ridgecrest	City of Twentynine Palms	City of Victorville	City of Yucca Valley
Total Population	726,482	31,765	69,135	22,639	14,120	90,173	156,633	152,750	27,616	25,048	115,903	20,700
% Share of Total	100.0%	4.4%	9.5%	3.1%	1.9%	12.4%	21.6%	21.0%	3.8%	3.4%	16.0%	2.9%
Population Growth (1990-2010)	85.1%	273.0%	50.0%	5.4%	137.1%	78.9%	231.2%	121.9%	-0.4%	111.9%	185.0%	51.2%
Families as % of Households	76.6%	84.2%	75.0%	67.0%	70.6%	80.0%	74.4%	82.3%	66.5%	72.2%	79.6%	63.5%
Population in Group Quarters	3.5%	5.5%	0.7%	1.6%	18.5%	0.0%	5.3%	0.1%	0.3%	13.4%	4.4%	1.1%
Average Household Size	3.1	3.8	2.9	2.8	2.8	3.4	3.2	3.6	2.5	2.7	3.4	2.5
Housing by Tenure Owner-Occupied	62.4%	57.8%	69.1%	49.0%	60.3%	66.9%	60.4%	67.9%	60.5%	33.9%	61.8%	63.5%
Renter-Occupied	37.6%	42.2%	30.9%	51.0%	39.7%	33.1%	39.6%	32.1%	39.5%	66.1%	38.2%	36.5%
Unit Vacancy	10.3%	14.0%	9.6%	15.4%	21.3%	8.9%	9.3%	7.7%	9.5%	14.2%	11.2%	13.4%
Median Housing Value	$178,745	$118,500	$230,300	$123,300	$145,100	$193,700	$214,800	$227,300	$191,100	$166,300	$172,500	$183,300
Median Rent	$970	$1,034	$986	$782	$878	$1,067	$1,113	$1,130	$777	$927	$1,091	$888

Table 3.5-2. 2010 Census Demographic Comparison, Incorporated Cities Within West Mojave Plan Region

Census Variable	Combined Cities	City of Adelanto	Town of Apple Valley	City of Barstow	City of California City	City of Hesperia	City of Lancaster	City of Palmdale	City of Ridgecrest	City of Twentynine Palms	City of Victorville	City of Yucca Valley
Median Household Income	$49,935	$42,208	$50,664	$45,417	$53,768	$48,624	$52,290	$55,213	$59,830	$43,412	$52,357	$45,502
Workforce Characteristics Workers per 1,000 Population*	418	304	418	441	413	412	412	430	498	566	394	416
Occupation (Age 16+) White Collar*	69.0%	63.1%	70.3%	68.3%	69.0%	65.4%	70.7%	69.4%	73.1%	70.1%	67.9%	68.9%
Blue Collar	31.0%	36.9%	29.7%	31.7%	31.0%	34.6%	29.3%	30.6%	26.9%	29.9%	32.1%	31.1%
Average Commute Time	29.5	38.6	29.8	24.3	32.6	39	30.7	40.1	14.3	14	34.5	26.3

*2000 Census
Source: Alfred Gobar Associates; U.S. Bureau of the Census.

The West Mojave extends across large portions of four Southern California counties (Los Angeles, San Bernardino, Kern, and Inyo), which all combined have 12.7 million residents (2010 Census) or nearly 37.2 percent of the Statewide population (34.1 million residents). Demographic characteristics describing an area are most often compared to corresponding characteristics describing a larger geographic setting of which it is a part. Roughly 80 to 90 percent of all residents within Southern California, however, reside in areas that are substantially more developed and urbanized than is the case with the WEMO Planning area. As noted in Table 3.5-3, counties within the planning area are anticipated to grow by double digits over the 2010 to 2030 timeframe. All of the counties, except Inyo and Los Angeles, are expected to grow at a rate that exceeds that of the state.

Table 3.5-3. Population Projections in the WEMO Planning Area

Geography	2010	2020	2030	2040	2050	2060	% Change 2010-2030	% Change 2010-2060
Inyo*	18,528	19,350	20,428	22,009	23,053	23,921	10.2	29.1
Kern	841,146	1,057,440	1,341,278	1,618,681	1,858,455	2,055,622	59.5	144.3
Los Angeles	9,824,906	10,441,441	10,950,335	11,243,022	11,434,565	11,562,720	11.5	17.7
Riverside*	2,191,886	2,593,211	3,046,064	3,462,256	3,828,798	4,216,816	39.0	92.3
San Bernardino	2,038,523	2,273,017	2,626,945	2,988,648	3,248,440	3,433,047	28.9	68.4
California	37,309,382	40,643,643	44,279,354	47,690,186	50,365,074	52,693,583	18.7	41.2

Source: California Department of Finance 2013.
*contains only one census tract within the planning area.

Typical population densities generally range from roughly 2,500 persons per square mile in growing suburban areas to more than 7,500 persons per square mile in urbanized areas. By comparison, the corresponding population density for the eleven WEMO Planning area cities combined (accounting for 71 percent of the planning area population base) only averages about 865 persons per square mile (726,482 residents in 2010 divided by 840 square miles). The Census Bureau utilizes a minimum threshold of 1,000 persons per square mile to denote an urbanized setting. The WEMO Planning area is more characteristic of a large rural environment. As such, demographic traits that describe the WEMO Planning area reflect distinctly different circumstances than is true for more urbanized portions of Southern California, thereby minimizing the usefulness of direct comparisons. Instead, the State of California, which includes a sizeable rural population, serves as a more appropriate reference for comparing overall distinctions describing WEMO Planning area residents.

Compared to the State as a whole, the WEMO Planning area consists of a relatively young population base. The planning area includes a heavy composition of families, and similarly has a greater proportion of residents 20 years of age or younger than the State. As result, there are relatively fewer small households (two persons or less). The West Mojave is still attracting a large number of new households but at a whole. The affordability of housing in the WEMO Planning area remains a principal attraction to the new households, resulting in population

growth rates in the planning area being higher than in the more fully developed areas of the Inland Empire, and the attraction of those households to lower-cost, local recreation and tourism options.

Workforce participation (workers, not jobs) among West Mojave households continues to lag the State and Southern California economy. Census data (2010) indicates there was an average of 1.35 workers (persons indicating a place of work) per household throughout the WEMO Planning area compared to a State-wide average of approximately 1.47 workers per household. Similarly, current estimates of local employment (local jobs, as distinct from resident workers) also indicate that there are fewer job opportunities in the WEMO Planning area (1.14 jobs per occupied household) than is true for the State economy or Southern California as a whole (1.34 jobs per household). The incidence of local job opportunities in the WEMO Planning area, is comparable to slightly less than other outlying regions of Southern California, including Kern County (1.33 jobs per household) and the Inland Empire (1.24 jobs per household).

Demographic traits and growth trends describing the WEMO Planning area overall vary considerably within the planning area. The San Bernardino sub-area of the planning area accounts for 64 percent of the planning area's land area, nearly 49 percent of the 2000 resident population, and nearly 48 percent of population growth between 1990 and 2000. By comparison, the Los Angeles sub-area only accounts for 7 percent of the planning area's land area, but 41 percent of the 2000 resident population, and over 50 percent of corresponding population growth. The Kern sub-area accounted for 11 percent of the 2000 population base, but less than 2 percent of total corresponding growth. The Inyo sub-area, with roughly 600 residents, accounts for less than 0.1 percent of the WEMO planning area population base and has experienced an overall decline in population since 1990. On a combined basis, the Los Angeles and San Bernardino sub-areas accounted for over 98 percent of total population growth between 1990 and 2000.

The population growth and changes in the planning area add stress to the transportation network in several ways:

- Regional and Planning Area population growth adds more vehicles to the existing network;
- Planning Area population growth requires retooling of the network and its uses as new communities are constructed, become more densely populated, and require additional access needs;
- The modest income characteristics of the Planning Area population also favor closer-to-home recreation options that add more vehicles to the existing network.
- Population growth in outlying portions of the Planning Area results in increases in average commute times and therefore a greater number of vehicle miles traveled per person; and
- The youthfulness of Planning Area population growth increases the number of persons engaged in vehicle-based recreation, and in particular in OHV use.

3.5.2 Economic Contribution of Tourism and Recreation

The high desert environment of the West Mojave continues to offer a diverse range of options for growing urban populations throughout Southern California and Nevada seeking recreation and leisure activities in a natural setting. Tourism and recreation demands are being driven by both regional and planning area population growth and characteristics. The high desert region attracts nearly 2.0 million visitor-trips a year for off-highway vehicle recreation and nearly 1.5 million visitors to State and National Parks in the area. In addition to generating a need for access in the planning area, this recreation travel adds to socioeconomic activity by supporting local businesses and related jobs.

Table 3.5-4 summarizes levels of tourism-related employment in and around the planning area in 2011. Since 1998, travel and tourism-related employment has grown from 14.3 percent of total private employment to 16.0 percent. From 1998 to 2011, employment in travel and tourism increased 36.3 percent, as compared to an increase of 18.7 percent in non-travel and tourism employment. These figures demonstrate the relative growth in the importance of recreation in the overall economy.

Table 3.5-4. Local County Travel and Tourism-Related Employment in 2011

Sector	San Bernardino County	Inyo County	Kern County
Total Travel and Tourism Employment	81,593	1,889	28,029
Retail Trade	19,246	191	5,791
Passenger Transportation	393	1	79
Arts, Entertainment, and Recreation	10,490	279	3,790
Accommodation and Food	51,464	1,418	18,429

Source: EPS-HDT 2013

OHV recreationists, whether they use OHVs as a means to access other forms of recreation, or find recreation opportunities in the driving of the OHV itself, contribute to the local economies of the planning area in a variety of ways. Economic contributions depend on the level of use in areas surrounding desert towns, and the future significance of contributions depends on the nature of ongoing recreation use trends. Table 3.5-5 addresses the various ways by which recreation opportunities in various areas of the WEMO Planning area contribute dollars to local economies.

Table 3.5-5. Recreation Economic Contribution

Region or City	Principal Recreational Activities on Adjoining Public Land	OHV Use in Nearby Areas	Source of Economic Contribution	Trends in Growth	Comments

Table 3.5-5. Recreation Economic Contribution

Region or City	Principal Recreational Activities on Adjoining Public Land	OHV Use in Nearby Areas	Source of Economic Contribution	Trends in Growth	Comments
Inyo County (Pearsonville Little Lake)	Commercial filming, Motorcycle touring	Low	Fuel, food	Increasing as the LA Basin grows	Most visitors to the area will acquire supplies in larger communities further south
Kern County	Large range of vehicle dependent recreational activities	Cumulatively High	Lodging, meals, supplies, vehicle repairs, fuel	Increasing	Given the close proximity of this portion of Kern County to the LA Basin and that it serves as the "Gateway" to the Sierras and the Desert, growth is high and is expected to increase.
California City	OHV touring in the Rand and El Paso mountains – off-road motorcycle play	Moderate	Fuel, camping supplies, and food	Has been increasing with the growth of the LA Basin	Visitors coming over the Tehachapi and headed to the Rand and El Paso Mountains will likely stop in California City. In spite of recent closures in the Rands, the level of use outside of California City has not diminished. The closures have in fact increased demands on local law enforcement due to increased private property trespass.
Mojave	SUV touring, off-road Events for 4WD, motorcycles, and all desert play vehicles	High	Vehicle repairs and vehicle parts, fuel, camping supplies, motels, and food	Increasingly significant with growth in LA Basin and the increasing popularity of desert	The Tehachapi Pass carries a significant load of recreation traffic from the San Joaquin Valley headed to the Mojave Region. Certainly any increase in recreation activity has a potential for economic gain for Mojave.

Table 3.5-5. Recreation Economic Contribution

Region or City	Principal Recreational Activities on Adjoining Public Land	OHV Use in Nearby Areas	Source of Economic Contribution	Trends in Growth	Comments
Ridgecrest	SUV touring, organized OHV events, rock hounding, commercial filming	High	Vehicle repairs and parts, fuel, camping supplies, food, hotels	Increasing	Viewed as both a significant current and future source of economic revenues
San Bernardino County	Large range of vehicle dependent recreational activities	Cumulatively High	Lodging, meals, supplies, vehicle repairs, fuel	Increasing	Given the close proximity of this portion of San Bernardino County to the LA Basin and the "Inland Empire" and that it serves via I-15/US 395 as the "Gateway" to the Sierras and the Desert, growth is high and is expected to increase.
Baker	SUV touring, OHV events, 4WD and motorcycle play, rock hounding, mining exploration	Low	Vehicle repairs and vehicle parts, fuel, camping supplies, motels, and food	Slight increase due to remoteness	Baker is at the eastern edge of the study area and most users come out of the LA Basin and the San Joaquin Valley. Therefore, most recreation expenditures for the Mojave come from recreation users not going thru Baker.
Barstow	SUV touring, OHV events, 4WD and motorcycle play, rock hounding, mining exploration	High	Vehicle repairs and vehicle parts, fuel, camping supplies, motels, and food	Increasing	Barstow is at the heart of the Mojave Study Area with traffic coming in from LA via Highway 15 and from the west via Highway 58. An increase in recreation related expenditures could have a significant positive effect on Barstow.

Table 3.5-5. Recreation Economic Contribution

Region or City	Principal Recreational Activities on Adjoining Public Land	OHV Use in Nearby Areas	Source of Economic Contribution	Trends in Growth	Comments
Daggett	SUV touring, OHV events, 4WD and motorcycle play, rock hounding, mining exploration	Low	Fuel and food	Increasing slightly	Daggett is located about 5 miles east of Barstow and the majority of travelers will stock up in Barstow and only use Daggett for last minute supplies. Therefore, a light increase in recreation activity will have a very slight economic impact to this small community.
Lucerne Valley	SUV touring, desert exploring via 4WD and motorcycle, rock hounding, and mining exploration	Low	Fuel, camping supplies, and food	Slight increase; due to the fact that the area is somewhat "off the beaten path" the level of growth is less than other areas	Lucerne Valley is located just north of the San Bernardino Mountains about 10 miles east of Apple Valley. The following BLM sub regions surround Lucerne Valley: Juniper, Granite, Ord, and Bighorn, also to the east is Johnson Valley OHV Area. Lucerne does not serve a large number of travelers.
Ludlow	SUV touring, OHV events, 4WD and motorcycle play, rock hounding, mining exploration	Low	Fuel and food	Increasing slightly	Ludlow is located about 50 miles east of Barstow and the majority of travelers will stock up in Barstow. Therefore, a light increase in recreation activity will have a very slight economic impact to this small community.

Table 3.5-5. Recreation Economic Contribution

Region or City	Principal Recreational Activities on Adjoining Public Land	OHV Use in Nearby Areas	Source of Economic Contribution	Trends in Growth	Comments
Newberry Springs	SUV touring, OHV events, 4WD and motorcycle play, rock hounding, mining exploration	Low	Fuel and food	Increasing slightly	Newberry Springs is located about 18 miles east of Barstow and the majority of travelers will do their business in the bigger city. Therefore, a light increase in recreation activity will have a very slight economic impact to this small community.
Trona	Commercial filming, motorcycle touring	Low	Fuel and food	Increasing as visitation increases to Death Valley NP	Although most visitors to the area get supplies in Ridgecrest, the future economic contribution to this economically depressed community is significant.
Victorville/ Apple Valley	SUV touring, OHV events, 4WD and motorcycle play, rock hounding, mining exploration	High	Vehicle repairs and vehicle parts, fuel, camping supplies, lodging, food	Increasing	Victorville does receive a high volume of recreation traffic leaving the LA Basin on Highway 15. It is close to the Stoddard Valley OHV Area, Johnson Valley OHV Area, and Granite, Ord, and Juniper BLM Sub Regions. Any increases in OHV recreation could result in significant monetary inputs into the local economy.

Table 3.5-5. Recreation Economic Contribution

Region or City	Principal Recreational Activities on Adjoining Public Land	OHV Use in Nearby Areas	Source of Economic Contribution	Trends in Growth	Comments
Yucca Valley	SUV touring, desert exploring via 4WD and motorcycle, rock hounding, and mining exploration	Low	Fuel, camping supplies, food	Slight increase; most of the recreation growth is to the northwest	Yucca Valley is east of the San Bernardino Mountains, and south of the BLM sub region of Bighorn and north of the Morongo sub region. Yucca Valley is not on a major highway and, relative to other cities, does not serve a large volume of recreation traffic.

Source: Advance Resource Solutions, Inc.

3.5.3 Environmental Justice

3.5.3.1 Regulatory Framework

Executive Order 12898

In 1994 President Clinton issued Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, to direct federal attention on environmental and human health conditions in minority and low- income communities. EO 12898 promotes nondiscrimination in federal programs that substantially affect human health and the environment, and it guarantees information access and public participation relating to these matters. This order requires federal agencies to identify and address any disproportionately high or adverse human health or environmental effects on minority and/or low-income populations resulting from programs, policies, and activities of federal agencies. The Council on Environmental Quality (CEQ) oversees federal compliance with EO 12898.

Council on Environmental Quality's Environmental Justice Guidance under the National Environmental Policy Act

To ensure that federal agencies effectively identify and address environmental justice concerns according to EO 12898, the CEQ, in consultation with the Environmental Protection Agency (EPA), developed guidance to assist federal agencies to implement procedures. According to the CEQ's *Environmental Justice Guidance under NEPA*, agencies should consider the composition of affected areas to determine whether minority or low-income populations are affected by a proposed action, and, if so, whether those environmental effects may be disproportionately high or adverse (CEQ 1997).

According to the CEQ environmental justice guidelines, minority populations should be identified if:

- A minority population percentage either exceeds 50% of the population of the affected area, or:
- If the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (e.g., a governing body's jurisdiction, neighborhood census tract, or other similar unit).

Environmental Protection Agency (EPA) Final Guidance for Incorporating Environmental Justice Concerns in EPA's Compliance Analyses

The EPA's *Final Guidance for Incorporating Environmental Justice Concerns in EPA's Compliance Analyses* defines how the EPA will ensure that disproportionately high and adverse human health or environmental effects on minority communities and low-income communities are identified and addressed. It establishes agency-wide goals for engaging American Indian, Alaska Native, Native Hawaiian, and other indigenous peoples. It also establishes agency-wide goals for environmental protection and lists actions the EPA would take to incorporate environmental justice into its mission (EPA 1998).

Environmental Protection Agency Plan Environmental Justice 2014

The EPA's Plan Environmental Justice (EJ) 2014 is a strategy to help the agency integrate environmental justice into its programs, policies, and activities. Plan EJ 2014 identifies Cross-Agency Focus Areas, Tools Development, and Program Initiatives as the three essential elements that will advance environmental justice across the EPA and other agencies of the federal government.

Bureau of Land Management Land Use Planning Handbook, Appendix D

The Plan Area includes all or part of the following Department of Interior (DOI) Bureau of Land Management (BLM) field office jurisdictions:

- Ridgecrest
- Barstow
- Needles
- Palm Springs/South Coast

Appendix D (Social Science Considerations in Land Use Planning Decisions) of the BLM Land Use Planning Handbook provides guidance on integrating social science information into the planning process for projects within BLM lands. Any information gathered for planning purposes must be considered in the context of BLM's legal mandates. To be effective, social scientific data and methods identified in Appendix D must be integrated into the entire planning process (BLM 2005). Furthermore, Section IV (Environmental Justice Requirements) of Appendix D provides guidance for assessing potential impacts on population, housing, and employment as they relate to environmental justice. It also describes variables such as lifestyles, beliefs and attitudes, and social organizations with respect to environmental justice.

Defining Environmental Justice Populations

The CEQ Environmental Justice Guidance defines "minorities" as individuals who are members of the following population groups: American Indian or Alaskan Native, Asian or Pacific Islander, Black not of Hispanic origin, or Hispanic (CEQ 1997). The total minority population has been calculated by subtracting the white alone, not Hispanic or Latino, population from the total population. An environmental justice population is identified when the minority population of the potentially affected area is greater than 50% or the minority population percentage is meaningfully greater than the minority population in the general population or other appropriate unit of geographical analysis. For this analysis, any census tract with a minority population greater than 50% was identified as an environmental justice tract of concern.

The CEQ Environmental Justice Guidance defines "low-income populations" as populations with mean annual incomes below the annual statistical poverty level. For this analysis, low-income population was determined by utilizing the U.S. Census tract data for the 5-year period 2008-2012. For this purpose, "low-income" is equated with "below poverty level." Other measures of "low-income" are also in use in California. For example, the State of California Department of Housing and Community Development, Division of Housing Policy Development establishes annually specific "low-income" thresholds for California counties. The Department distinguishes as well between "low-income," "very low income," and "extremely low" income thresholds for households of different sizes.

The CEQ and EPA guidance documents do not provide a discrete threshold for determining when a low-income population should be identified for environmental justice. For this analysis, a population of a U.S. Census tract that merits an environmental justice analysis has a percentage of its low-income population of the potentially affected census tract greater than the area-wide percentage of the low-income population across the entire West Mojave planning area.

3.5.3.2 Minority and Low-Income Populations in the WEMO Planning Area

Percentages of minority and low-income populations for individual census tracts furnish the criteria for identifying census tracts that merit consideration in an EJ analysis. Table 3.5-6 presents data on the population of each U.S. Census tract in the West Mojave Planning Area as well as the numbers and percentages of minority and low-income subpopulations within each census tract. The demographic data in Table 3.5-6 for each census tract used in the EJ analysis was sourced from the U.S. Census Bureau 2008-2012 5-Year American Community Study (ACS).

A census tract cell in Table 3.5-6 that is bolded in the column "Percent Minority Population" indicates a tract of concern for EJ analysis. Census tracts of EJ concern have minority populations greater than 50%. Low-income populations in census tracts that are bolded under the column "Percent Low-Income Population" also indicate a tract of concern for EJ analysis. Census tracts of EJ concern have a percentage of low-income people greater than the average percentage of all low-income people residing in the West Mojave Planning Area.

The population of the WEMO Planning area has on average a lower percentage of minority residents than the state of California. In contrast, the population of the WEMO Planning area has a greater number of low-income residents than in the population of the state of California.

Locations of census tracts with considerations of minority and low-income populations of environmental justice concerns are portrayed in Figure 3.5-1. The following enumeration summarizes the number of identified environmental justice tracts of concern by county:

- Inyo County: Does not contain any tracts with concerns for minority and low-income populations.
- Kern County: Contains eight tracts with concerns for low-income concerns and no tracts with minority concerns.
- Los Angeles County: Contains 17 tracts with both minority and low-income concerns, 29 tracts with minority concerns only, and 35 tracts with concerns for low-income populations.
- Riverside County: Contains only one tract with concerns for both minority and low-income populations.
- San Bernardino County: Contains two tracts with both minority and low-income concerns, one tract with minority concerns only, and 42 tracts with concerns for low-income populations.

Table 3.5-6. Minority and Poverty Populations within the WEMO Planning Area[1,2]

Location/County	Census Tract	Total Population	Minority Population	Minority Population (%)	Low-Income Population	Low-Income Population (%)[3]
Inyo		**3,234**	**513**	**15.9**	**460**	**14.2**
	8*	3,234	513	15.9	460	14.2
Kern		**94,476**	**21,999**	**23.3**	**17223**	**18.2**
	52.01*	5,167	276	5.3	913	17.7
	52.03*	4,458	459	10.3	1193	**26.8**
	53	2,127	474	22.3	463	**21.8**
	54.01	6,371	1,051	16.5	838	13.2
	54.02	5,354	977	18.2	282	5.3
	54.03	7,629	2,038	26.7	825	10.8
	54.04	6,530	1,357	20.8	911	14.0
	55.01	5,945	679	11.4	866	14.6
	55.06	5,052	1,127	22.3	710	14.1
	55.07	7,692	2,770	36.0	1855	**24.1**
	55.08	5,167	1,572	30.4	1641	**31.8**
	56	2,017	383	19.0	596	**29.5**
	57	2,745	786	28.6	22	0.8
	58.01	6,821	2,507	36.8	1010	14.8
	58.02	7,030	2,873	40.9	2335	**33.2**
	59	3,344	1,471	44.0	1155	**34.5**
Kern (continued)	60.04*	1,637	304	18.6	195	11.9
	60.07*	6,491	343	5.3	720	11.1
	65	2,899	552	19.0	693	**23.9**
Los Angeles		**375,147**	**163,719**	**43.6**	**70993**	**18.9**

Table 3.5-6. Minority and Poverty Populations within the WEMO Planning Area[1,2]

Location/County	Census Tract	Total Population	Minority Population	Minority Population (%)	Low-Income Population	Low-Income Population (%)[3]
	9001.02	791	113	14.3	224	**28.3**
	9001.03	6,482	1,665	25.7	2061	**31.8**
	9001.04	5,603	1,994	35.6	1211	**21.6**
	9002.01	1,201	148	12.3	120	10.0
	9003	3,853	1,062	27.6	461	12.0
	9005.01	6,475	2,466	38.1	1851	**28.6**
	9005.04	5,508	2,607	47.3	586	10.6
	9005.05	4,169	2,059	49.4	1180	**28.3**
	9005.06	4,647	1,444	31.1	730	15.7
	9005.07	7,944	2,948	37.1	2006	**25.3**
	9005.08	3,331	1,437	43.1	707	**21.2**
	9006.02	5,324	1,482	27.8	2120	**39.8**
	9006.05	7,055	1,988	28.2	1440	**20.4**
	9006.06	3,898	1,457	37.4	1222	**31.3**
	9006.07	4,510	2,278	***50.5***	1744	**38.7**
	9006.08	3,335	867	26.0	800	**24.0**
	9006.09	5,339	1,999	37.4	1744	**32.7**
	9007.01	4,749	1,753	36.9	1282	**27.0**
	9007.03	3,763	1,413	37.5	1005	**26.7**
	9007.04	2,863	1,091	38.1	605	**21.1**
	9007.05	4,627	1,629	35.2	874	18.9
	9008.03	9,910	5,354	**54.0**	1592	16.1
	9008.04	2,911	1,414	48.6	945	**32.5**
	9008.05	4,817	2,144	44.5	794	16.5
	9008.06	3,089	1,604	***51.9***	1168	**37.8**
	9009	3,690	871	23.6	458	12.4
	9010.03	5,532	3,607	***65.2***	0	0.0
	9010.04	12,411	3,691	29.7	1517	12.2
	9010.07	2,250	130	5.8	176	7.8
	9010.08	2,970	938	31.6	245	8.2
	9010.09	5,667	1,555	27.4	1148	20.3
	9010.10	6,007	1,819	30.3	1926	**32.1**
	9010.11	4,903	1,438	29.3	583	11.9
	9011.01	5,478	1,368	25.0	1028	18.8
	9011.02	5,505	1,383	25.1	858	15.6
	9012.05	10,376	2,543	24.5	555	5.3
Los Angeles (continued)	9012.09*	1,449	89	6.1	137	9.5
	9012.10	1,512	100	6.6	42	2.8
	9012.13	3,825	673	17.6	165	4.3
	9100.01	5,814	3,593	**61.8**	638	11.0
	9100.02	6,351	3,141	49.5	1156	18.2

Table 3.5-6. Minority and Poverty Populations within the WEMO Planning Area[1,2]

Location/County	Census Tract	Total Population	Minority Population	Minority Population (%)	Low-Income Population	Low-Income Population (%)[3]
	9101.01	1,275	770	***60.4***	492	**38.6**
	9102.01	4,432	2,835	***64.0***	1562	**35.2**
	9102.02	5,612	1,382	24.6	190	3.4
	9102.05	1,073	339	31.6	47	4.4
	9102.06	3,229	1,433	44.4	75	2.3
	9102.07	5,689	2,210	38.8	430	7.6
	9102.08	6,681	3,132	46.9	902	13.5
	9102.09	4,004	1,408	35.2	277	6.9
	9102.10	7,063	2,630	37.2	304	4.3
	9103.01	4,242	1,099	25.9	236	5.6
	9103.02	5,607	1,574	28.1	346	6.2
	9104.01	6,475	3,198	49.4	482	7.4
	9104.02	3,251	2,145	***66.0***	1223	**37.6**
	9104.03	2,351	1,800	***76.6***	1328	**56.5**
	9104.04	3,916	2,265	***57.8***	1443	**36.8**
	9105.01	5,438	4,420	***81.3***	2984	**54.9**
	9105.02	4,145	2,912	***70.3***	1584	**38.2**
	9105.04	4,878	3,507	***71.9***	1354	**27.8**
	9105.05	3,017	2,059	***68.2***	487	16.1
	9106.01	6,308	3,934	***62.4***	1773	**28.1**
	9106.02	3,420	2,528	***73.9***	1050	**30.7**
	9106.03	7,328	4,655	***63.5***	843	11.5
	9106.05	4,450	2,355	***52.9***	1316	**29.6**
	9106.06	2,954	1,892	***64.0***	881	**29.8**
	9107.05	12,059	7,544	***62.6***	1086	9.0
	9107.06	6,042	3,367	***55.7***	1247	**20.6**
	9107.07	4,666	2,805	***60.1***	851	18.2
	9107.09	1,663	681	41.0	198	11.9
	9107.11	7,615	4,250	***55.8***	1457	19.1
	9107.12	2,657	1,659	***62.4***	294	11.1
	9107.13	5,843	3,583	***61.3***	1009	17.3
	9107.14	3,961	2,681	***67.7***	883	**22.3**
	9107.15	6,656	3,613	***54.3***	1207	18.1
	9107.16	5,783	3,649	***63.1***	832	14.4
	9108.04*	3,087	537	17.4	303	9.8
Los Angeles (continued)	9108.05*	4,204	399	9.5	485	11.5
	9108.12	407	33	8.1	23	5.7
	9110.01	3,709	1,066	28.7	394	10.6
	9800.03	0	0		0	
	9800.04	23	15	***65.2***	11	**47.8**
Riverside		**3,513**	**1,444**	**41.1**	**594**	**16.9**

Table 3.5-6. Minority and Poverty Populations within the WEMO Planning Area[1,2]

Location/County	Census Tract	Total Population	Minority Population	Minority Population (%)	Low-Income Population	Low-Income Population (%)[3]
	469*	3,513	1,444	41.1	594	16.9
San Bernardino		**497,644**	**137,457**	**27.6**	**102843**	**20.7**
	100.04	8,735	1,150	13.2	847	9.7
	100.09	3,677	855	23.3	485	13.2
	100.10	6,124	1,973	32.2	1657	**27.1**
	100.11	4,821	1,716	35.6	1494	**31.0**
	100.12	4,768	515	10.8	757	15.9
	100.13	8,463	2,328	27.5	1128	13.3
	100.14	5,080	1,218	24.0	1810	**35.6**
	100.15	5,213	1,090	20.9	1084	**20.8**
	100.16	5,693	1,536	27.0	1402	**24.6**
	100.17	14,479	3,872	26.7	2066	14.3
	100.18	7,882	2,543	32.3	1773	**22.5**
	100.19	5,507	1,373	24.9	1561	**28.3**
	100.20	6,969	2,230	32.0	1716	**24.6**
	100.21	6,539	699	10.7	1915	**29.3**
	100.22	3,958	656	16.6	587	14.8
	100.23	5,836	925	15.8	693	11.9
	100.24	5,062	934	18.5	1168	**23.1**
	100.25	7,005	2,987	42.6	1807	**25.8**
	100.26	11,902	4,787	40.2	3403	**28.6**
	103*	3,692	713	19.3	802	**21.7**
	104.02	11,024	2,234	20.3	689	6.3
	104.09*	2,727	403	14.8	489	17.9
	104.10	2,809	373	13.3	369	13.1
	104.11	6,945	1,285	18.5	1154	16.6
	104.12	7,258	1,181	16.3	970	13.4
	104.13	6,431	1,195	18.6	1323	**20.6**
	104.15	5,291	1,793	33.9	563	10.6
	104.16	3,755	374	10.0	930	**24.8**
	104.17	3,391	429	12.7	903	**26.6**
	104.19	4,827	1,032	21.4	1043	**21.6**
	104.20	4,074	768	18.9	643	15.8
	104.21	5,619	1,857	33.0	1317	**23.4**
San Bernardino (continued)	104.22	1,319	87	6.6	182	13.8
	104.23	3,654	450	12.3	806	**22.1**
	104.24	1,375	52	3.8	360	**26.2**
	116	6,622	856	12.9	1004	15.2
	117	1,720	433	25.2	358	**20.8**
	118	7,391	2,168	29.3	1188	16.1
	119	4,020	996	24.8	850	**21.1**

Table 3.5-6. Minority and Poverty Populations within the WEMO Planning Area[1,2]

Location/County	Census Tract	Total Population	Minority Population	Minority Population (%)	Low-Income Population	Low-Income Population (%)[3]
	120.01	6,194	2,288	36.9	574	9.3
	120.02	5,569	2,463	44.2	995	17.9
	121.01	5,087	1,277	25.1	475	9.3
	121.03	4,121	915	22.2	509	12.4
	121.04	5,853	1,323	22.6	1371	**23.4**
	250	9,584	3,161	33.0	979	10.2
	89.01	2,368	185	7.8	526	**22.2**
	91.07	5,529	279	5.0	957	17.3
	91.08	6,134	1,269	20.7	1244	**20.3**
	91.09	5,372	936	17.4	565	10.5
	91.10	16,159	7,313	45.3	3048	18.9
	91.12	8,931	4,022	45.0	1823	**20.4**
	91.14	9,802	4,832	49.3	1766	18.0
	91.16	6,883	3,331	48.4	3929	**57.1**
	91.17	7,233	2,173	30.0	2667	**36.9**
	91.18	20,987	7,627	36.3	3324	15.8
	91.19	5,314	1,164	21.9	773	14.5
	92.01	4,623	107	2.3	213	4.6
	93	1,217	368	30.2	247	**20.3**
	94	3,153	1,194	37.9	1720	**54.6**
	95	6,855	2,560	37.3	2092	**30.5**
	97.07	6,303	860	13.6	918	14.6
	97.08	4,498	623	13.9	772	17.2
	97.09	6,214	1,383	22.3	1377	**22.2**
	97.10	7,927	1,712	21.6	3354	**42.3**
	97.11	9,409	1,737	18.5	765	8.1
	97.12	5,933	1,663	28.0	2047	**34.5**
	97.13	6,661	1,177	17.7	656	9.8
	97.14	3,661	766	20.9	851	**23.2**
	97.15	7,976	1,471	18.4	913	11.4
	97.16	6,863	1,688	24.6	2601	**37.9**
	97.17	4,198	481	11.5	481	11.5
	98	4,499	1,197	26.6	1714	**38.1**
San Bernardino (continued)	9802	4,228	2,255	***53.3***	0	0.0
	99.04	10,544	4,087	38.8	3268	**31.0**
	99.05	8,102	4,693	***57.9***	3013	**37.2**
	99.06	4,604	1,872	40.7	807	17.5
	99.08	4,486	1,558	34.7	902	**20.1**
	99.10	4,837	1,831	37.9	588	12.2
	99.11	7,027	2,167	30.8	1105	15.7
	99.12	5,123	1,490	29.1	1448	**28.3**

Table 3.5-6. Minority and Poverty Populations within the WEMO Planning Area[1,2]

Location/County	Census Tract	Total Population	Minority Population	Minority Population (%)	Low-Income Population	Low-Income Population (%)[3]
	99.13	5,926	1,893	31.9	2170	**36.6**
WEMO TOTAL		**974,014**	**325,132**	**33.3**	**192,113**	**19.6**
CALIFORNIA		**37,325,068**	**14,072,515**	**37.7**	**5,590,100**	**15.0**

*Tracts transect the planning area boundary.

[1] Bolded numbers within the percent minority population and percent low-income population columns, indicate a tract with environmental justice populations.

[2] Because U.S. Census 2008-2012 American Community Survey (ACS) estimates come from a sample population, a certain level of variability is associated with the estimates. Supporting documentation on ACS data accuracy and statistical testing can be found on the ACS website in the Data and Documentation section available here:
http://www.census.gov/acs/www/data_documentation/documentation_main/.
For purposes of this analysis, U.S. Census ACS 5-Year 2008-2012 data were utilized to provide current data, consistency between the data used to identify minority and low-income populations, and consistency between the different geographies presented. U.S. Census ACS data from census tracts are considered the best available information for representing the demographic makeup of the WEMO Plan Area communities for the environmental justice analysis in this EIS. Federal agencies commonly use published U.S. Census ACS data in compliance with Executive Order 12898 and CEQ and EPA guidance for incorporating Environmental Justice Concerns under the National Environmental Policy Act of 1969 (NEPA).

[3] Represents individuals with mean annual incomes below the annual statistical poverty level, identified by poverty status in the last 12 months, identified as "percent below poverty level" within the US Census 2008-2012 ACS data set.

Source: U.S. Census Bureau American Community Survey 2008-2012.

3.6 Recreation Activities

Located only 90 minutes from downtown Los Angeles, the WEMO Planning area is the recreational backyard of the metropolitan area's 21 million residents, of whom nearly 2 million participate in OHV activities and an even greater number camp, hike or drive for pleasure. The Mojave Desert provides an easily accessible, uncrowded recreation experience. The many recreation opportunities of the WEMO Planning area arise from the variety of its mountains, bajadas, dry lakes and badlands, the diversity and affluence of its visitors and the sheer volume of space that its landscape provides.

The types of recreation provided in the WEMO Planning area are highly varied. Due to its vastness, many visitors feel a greater freedom from regulations that encourages them to try new forms of recreation while not having to worry about bothering others. Given the scale of the desert and this sense of freedom, it is not surprising that many of the recreational activities center around vehicles, speed events or activities that require a great deal of acreage and separation from other visitors. These activities include motorcycle activities, four wheel drive exploring, sightseeing, target shooting, hunting, using experimental vehicles/aircraft, model rocketry, and dry land windsailing. Many other recreational pursuits that do not revolve directly around the recreational aspect of vehicle use are, by necessity (due to the distances involved), dependent upon motorized vehicles. Examples of this include endurance equestrian rides and support vehicles, hiking, mountain biking, bird watching, botany, rockhounding, camping, geocaching, and picnicking, for which vehicles are a means to access various destinations. In Chapter 4, the effect of the designated route network on recreational opportunities is quantified and evaluated through the mileage of routes designated for these various recreational uses.

3.6.1 Patterns of Use

Although most recreational activities are widely dispersed, certain activities have "hot spots" that have been established over time. How or why they were established varies from case to case, but may be due to the features (topography, geology) of the area, proximity to urban areas, the availability of access into the area, and publicity. Understanding recreation patterns and hot spots is critical to the design of an effective motorized vehicle access network. Particular features or land-characteristics may make a given area highly desirable for a certain type (or types) of recreational activity. For instance, flat, expansive terrain is often desirable for recreational activities such as target shooting, driving for pleasure, and more quick-paced race events. On the other hand, mountainous terrain is often more conducive to such activities as rock climbing, hiking, rock hounding or technical four wheel rock crawling. In addition, specific attractions of an area dictate the types of use as well as the levels of use that predominate.

Some of the most popular hot spots in the desert portions of the WEMO planning area are dry lakebeds. Dry lakebeds pose unique access issues. This is due to the difficulty in following routes across lakebeds, and the adverse impacts and safety issues with marking them. Major lakebeds have been individually classified as to their availability for access and associated recreational use, and are generally identified as either open or closed, or available by permit. Smaller lakebeds are available for access consistent with the access parameters for surrounding areas, i.e., either open access or limited to designated routes. Two of the larger lakebeds in the West Mojave desert that have not yet been specifically designated for access are Cuddeback and Koehn Lake Beds.

Cuddeback Lake is a sizeable lakebed that has been a popular destination for both casual recreational use as well as commercial use for several decades. Ease of access, the frequency that the lakebed is dry, and surrounding vistas contribute to its attraction. The casual recreational uses that occur on the lakebed include land sailing, model rocket launching, bicycling, photography, star-gazing, and camping. Additionally, motor vehicle use of all kinds is popular on the lakebed including motorcycles, ATV, recreational Off-Highway Vehicle, and four wheel drive vehicles, as well as motorized and non-motorized use associated with commercial filming. Past and current levels of use are not currently consistent with the access designation for the surrounding area.

Koehn Lake is a sizeable lakebed located in the Fremont Valley north-west of the Rand Mountains and south of the Jawbone area that is not particularly popular for the public but has some unique safety issues. To the unfamiliar visitor, Koehn Lake's surface appearance is misleading. To the naked eye generally the lakebed appears to be dry, but the lake actually only has a thin crust of a few inches on the surface. After one breaks through this crust the subsurface is a clayish like material that acts similar to quick sand. Because of the potential hazard posed by the lakebed surface, recreational use and travel across the lakebed have not been a popular activity, and public use is a concern to BLM.

Coyote and Chisholm Trail Lakes are two lakebeds in the Joshua Tree area that are popular destinations for casual recreational users, due to their proximity to Copper Mountain Community College. Ease of access to college students and surrounding vistas contribute to their attraction. The casual recreational uses that occur on the lakebed are generally limited to day use riding, including motorcycles and all-terrain vehicles, with occasional motorized use associated with occasional overnight camping. The routes across these lakebeds are difficult to ascertain for a user entering from a route adjacent to the lakebed, and they serve as a substantial source of route proliferation onto adjacent lands. These two lakebeds are currently designated as limited to designated routes, but the difficulty of the public identifying designated routes and BLM managing the limited use is a concern to BLM.

The relative proximity of the Mojave Desert to urban centers makes it easy and convenient for recreationists to visit those "hot spots" and other areas having the features that they desire. About 85% of all visitors to the Mojave Desert are from the urban areas of Southern California. The BLM public lands are closer to the Los Angeles basin than other similar desert-environment recreation areas, such as the Mojave National Preserve and the national parks, and offer more expansive areas and a wider variety of recreational experiences.

Motorized vehicle access is itself a feature or characteristic that may or may not be sought. For example, a recreationist hoping to photograph or film particular wildlife undisturbed in its natural habitat would not want access so convenient that it attracts a large number of other visitors. Recreationists seeking to hike and camp in remote, difficult to reach areas to experience solitude would not find a location that has ready access from a major highway to be desirable. Conversely, a recreationist seeking to ride his dune buggy over sand dunes with groups of other people may appreciate easy access. Many other motorized users are seeking ready motorized access to the desert landscape to experience the space and solitude that heavily used areas cannot offer.

Publicity about an area's recreational opportunity often attracts users. Although some of this publicity can come through the mainstream news media (newspapers, television news reports), much of it comes by "word of mouth." A recreation club (motorcycle riding club, four wheel drive club, dune buggy club, hiking and camping club, equestrian endurance riding club, rock hounding

club, rock climbing club, photography club, or wildlife viewing club) may send out newsletters to its members identifying areas that have those features that are considered ideal for the type of recreational activity that the club engages in. The popularity of the web (organizational websites, Facebook) and similar mechanisms to share information have further increased sharing of information about locations and destinations in the desert. Computer apps can provide pictures and specific directions to sites, and have further expanded the reach of information beyond club members and small groups of individuals. This promotes discussion about specific areas and facilitates increased recreation at those sites. Recreation clubs are often drawn to specific hot spots where people participating in that particular type of recreation can gather and socialize.

Guidebooks and maps publicize favorite recreation sites. Guidebooks are available that describe areas in the Mojave Desert that offer significant opportunities for specific activities. These guidebooks typically describe the areas of interest in sufficient detail to lead recreationists to the most promising regions for the activity. Maps published by the American Automobile Association and regional user interest groups are particularly popular, for they indicate areas where different types of recreational activities occur.

Recreationists engage in activities that make use of more than one type of feature or terrain, and often desire to travel to locations where multiple types of terrain are readily available or that are relatively close to other areas having different terrain. In dual sport motorcycle touring, for instance, recreationists use motorcycles that are licensed for use on regular streets and highways but are capable of off-road travel. Recreationists engaged in such touring can ride to the desert on major highways, and then go off-road once a desired trail or special recreation opportunity has been reached. Their motorcycles can fit through tight spaces that larger vehicles, are unable to access.

Four-wheel drive vehicles have their attractions as well. A single four wheel drive SUV can accommodate more people and items than can a dual sport motorcycle, and can also readily switch from regular highway travel to off-road touring.

Table 3.6-1 presents a summary of recreation uses throughout the WEMO Planning area. It describes the primary destinations and recreational activities that occur at particular geographic locations within the planning area.

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA-1[2]					
TMA 1 – Broadwell Subregion	South third of TMA, bounded by Highway 40 on south, T&T on east, Newberry Springs to west, Hidden Valley Rd to north.	A couple of large valleys dominate this subregion. The north boundary is the road bisecting Hidden Valley (traditional cattle grazing), running east-west, which connects on the east to Broadwell Dry Lake basin, a north-south running valley. The north center third is in the Cady Mountain Wilderness Study Area. The western portion receives higher OHV traffic exploring from nearby urban areas in Newberry Springs, T&T popular historic route, significant north-south green sticker route, Route 66, OHV touring, scenic exploration. The area includes a large tower power transmission corridor.	Middle Country	Back Country	Middle Country
TMA 1 – Afton Subregion	North third of TMA, bounded by Interstate 15 on north, Hidden Valley Rd on south, Preserve/T&T east boundary, Newberry Springs west boundary.	This area includes a primary ancient, historic and current east west transportation corridor which includes the Mojave Trail (used for nearly 10,000 years), Old Spanish National Historic Trail, Mormon Rd., Government/Mojave Rd. and today Hwy15 and BNSF railroad. The center southern third is in Cady Mountains Wilderness Study Area; includes Afton Canyon, developed campground, overlooks, eligible Mojave River Wild & Scenic segment, Rasor OHV Area, Big Horn Sheep drinker, hunting, and rock collecting. The area includes active and historic mines, T&T historic grade, Rasor Ranch and BNSF railroad. Fuel, food and water are available at Hwy15 exits for Afton and Rasor.	Front Country	Middle Country	Front Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA 1 – Barstow Subregion	West third of TMA; directly east of Barstow, north boundary Hwy 15, south boundary Hwy 40. Majority land private, mixed development, military base, railroad, agriculture.	The area includes assorted small scattered tracts of public land, including portions along the Mojave River. There are few open routes. Available routes primarily connect private roads and provide commercial rather than casual OHV recreation. The area includes a historic settlement area with Camp Cady and Soldier Mountain, Manix ACEC, Old Spanish National Historic Trail, Mormon Rd. Extensive agricultural developments with roads, and power and water systems. Other developments include commercial power plant, mining, and communications sites, Marine supply base, rail yard and airport; hotels, restaurants and gas stations.	Rural Country	Urban Country	Urban Country
TMA-2					
TMA 2 - Darwin Subregion	Northern end of TMA, bounded by Hwy. 190 on the north, Death Valley NP on the east, China Lake NWS on the south, and Coso Range Wilderness on the west	Open desert expanse that is sporadically interrupted topographically by the upper extent of the Coso Range, the Darwin Hills, and other unnamed hills. The Darwin Falls Wilderness is on the north east flank of the area which provides opportunities for primitive and unconfined non-mechanized forms of recreation. The area is popular for its backcountry vehicle touring and exploration of historic mining sites, primitive camping, packing, hiking, camping, rock collecting, wild horse viewing, and photography. Popular recreational destinations include China Gardens spring, Lower Centennial cabin site, and the historic mining community of Darwin.	Back Country	Back Country	Back Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA 2 - Sierra Subregion	Western half of TMA, bounded by CDCA boundary and Hwy. 190 on the north, China Lake and Darwin Subregion on the east, Hwy 178 on the south, and the Inyo NF and CDCA boundary on the west	This area is generally a north south trending valley outlined on the western edge by the Eastern Sierra escarpment and the Coso Range on the east side. The area includes the Owens Peak, Sacatar Trail, and Coso Range Wilderness areas that provide for primitive and unconfined non-mechanized forms of recreation. Recreational activities include dispersed hiking and camping, rock climbing, upland game bird and deer hunting, bird watching, wildflower viewing, mountain biking, and horsebacking along with OHV travel and touring. Popular destinations within the area include Fossil Falls and its developed campground, Indian Wells, Short, and Sand Canyons, Ayers Rock, and the Olancha Sand Dunes Open Area.	Front Country	Middle Country	Middle Country
TMA 2 - North Searles Subregion	Northeastern end of TMA, bounded by the Slate Range Crossing on the north, the ridge top of the Slate Range separating Searles Valley from Panamint Valley on the east, Township line 26S on the South, and China Lake NWS on the west	The region consists of the upper part of the Searles Valley, part of the ancient lakebed above Searles Lake and is encircled by the Argus and Slate ranges on the west, east, and north respectively. Recreational pursuits include OHV driving for pleasure, technical four wheel driving, rock climbing, birding, horseback riding, hunting, rock hounding, along with hiking and backpacking. Popular destinations in the region include Isham Canyon, the Escape Trail, and Great Falls Basin. The Argus Range Wilderness, Wilderness Study Area and ACEC provide opportunities for non-mechanized forms of recreation.	Back Country	Back Country	Back Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA 2 - South Searles Subregion	Southeastern end of TMA, bounded along Township line 26S on the north, China Lake NWS on the east, Randsburg Wash Road on the south, and China Lake NWS on the west.	The region consists of the lower part of the Searles Valley made up of mostly gravel to silty lakebed sediments accentuated by the unusual Trona Pinnacles. Recreational pursuits in the area include gem and mineral collecting, star gazing, photography, OHV driving for pleasure, along with motorcycle racing and commercial 4-wheel drive, dual sport, and equestrian tours. Popular destinations within the area include the Trona Pinnacles National Natural Landmark and Searles Lake when it is opened to guided gem and mineral collecting trips.	Front Country	Middle Country	Front Country
TMA 3					
TMA 3 – Joshua Tree	Southeastern most portion of BFO; dry desert lands rise to the south from Highway 62. Joshua Tree NP. South boundary, west is 247.	The area includes various recreation sites, features and connecting routes are found throughout this area, a transitional interface zone between the desert and mountains to the south. Features include extensive historic mines and related roads, ruins and camps; Pinto Mountain Wilderness, popular shooting areas; remote 4 x 4 touring and exploration.	Back Country	Primitive Country	Back Country
TMA 3 – Wonder Valley	North east third of TMA, open valley, lightly scattered residential; between Hwy 62 & 29 palm marine base	Desert Valley basin oriented east-west; slopes rise gently to the south into rugged and remote Pinto Mountains, Joshua Tree NP and gateway community of 29 Palms, to the north desert lands gradually rise to ridgeline and 29 Palms Marine Base. The area includes extensive/dispersed urban interface, diverse features include Giant Rock, the Integratron and Copper Mountain Community College; full service town of 29Palms; small playas and dune systems popular with local OHV riders, and scattered staging areas.	Rural Country	Rural Country	Front Country
TMA 3 – Rattlesnake Canyon	South center field office; desert uplands around east-northeast base of San Bernardino Mountains. West boundary is Hwy18.	This area includes a swath of land along the base of the San Bernardino Mountains, extending north into the desert as far as Hwy 247. The area includes Rattlesnake Wilderness, numerous springs, thicker vegetation and larger wildlife, grazing, historic mines, and increasingly denser housing.	Front Country	Front Country	Middle Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA 3 – Juniper Flats	Southwest corner BFO; borders Hwy18 on east, SBNF to south, Mojave River on west & Hwy 247 to north.	This area includes an intensive urban interface with regular human activity, single track, OHV play, 4x4 exploration and scenic touring, equestrian, hiking, hotspring soaking, Pacific Crest Trail, Old Spanish National Historic Trail, hunting, numerous springs, fire wood collection, and dispersed camping. Features include community services, powerlines, pipelines, communications sites, railroad and dispersed visitor management control structures like signs, kiosks and fences.	Front Country	Front Country	Middle Country
TMA 3 – Morongo Valley	Center-southern most portion of BFO, centered around town of Morongo Valley; area at eastern base of San Bernardino Mountains, between San Gorgonio Wilderness & PSC.	This area includes the transitional zone between the eastern base of the San Bernardino Mountains and dry upland desert ranges around Twentynine Palms and Joshua Tree NP. A series of parallel canyons, rocky ridges and boulder outcrops transected by numerous roads, rights of way, utility corridors, ranches, farms, cabins, tract homes, and more intensive developments in town; relatively artistic town w/unique architecture in harmony with landscape.. ROWs and access to private holdings are primary uses of roads; also 4x4 and OHV play, hunting (shotgun), hiking, wildlife viewing, photography, and nature appreciation.	Rural	Rural	Rural
TMA 3 – Needles South	Northwest corner of NFO. N boundary Route 66 & Hwy40, S boundary Cleghorn Lakes Wilderness; W boundary 29 Palms Marine Base, E boundary Amboy Rd.	This area comprises relatively lower and drier desert basin area, and a more recent historic transportation corridor providing access to Needles and points east. The most prominent feature is Amboy Crater National Landmark. The area includes scattered ruins of large mining operations, pipelines, powerlines, railroad and highways. This area is a swath of land about 12 miles long, but 20 miles across and 2-3 miles wide running in a NW-SE arc. The area contains Ludlow and busy Amboy Rd. It is an excellent area for early viewing of desert wildflower blooms in the lower desert.	Front Country	Middle Country	Front Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA 3 – Pisgah Crater	Center east portion of BFO. S boundary is 29Palms marine base, boundary 140; W boundary is Powerline Rd., E boundary 2.5 miles west of Ludlow.	This area is a small narrow swath of land 2-3 miles wide, about 12 miles long between Hwy40 and 29 Palms Marine Base. The area is open plain gently draining east with significant lava flows originating further south. Scarce creosote scrub plant community, lava flows and Pisgah cinder cone (active commercial mine) combine in unique mars type landscape. The area is popular for scenic touring and photography. It is a relatively remote area with few visitors, yet human sounds are near constant because of intensive ambient sounds associated with transportation activities and low flying aircraft.	Middle Country	Back Country	Back Country
TMA 4					
TMA - 4 Jawbone Subregion	Northern end of TMA, bounded by Hwy 178 on the north, Hwy 14 on the east, Township line 31S on the south, and the CDCA boundary on the west.	This area is highlighted by the Jawbone Canyon and Dove Springs Open Areas along with the flat to rolling terrain that rises towards the western flank to take in the Scodie Mountains, along with the Kiavah and Bright Star Wilderness areas. The predominant recreational activity in the area is OHV riding including hill climbing, trail riding, and touring by both motorcycles and four wheel drives. Additional recreational activities include camping, star gazing, hiking, upland game bird and deer hunting, picnicking, target shooting, wildlife and wildflower viewing. Popular destinations in addition to the Open Areas include the Jawbone Station Visitor Center, Butterbredt Springs, and the Pacific Crest National Scenic Trail.	Front Country	Rural	Front Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA - 4 Middle Knob Subregion	Central section of TMA, bounded by Township line 31S on the north, Hwy 14 on the east, Kern and Los Angeles county lines on the south, and the CDCA boundary on the west.	This area consists of two small groupings of public lands around Antimony Flats and Middle Knob along with scattered public lands south of Highway 58 down to the Los Angeles county line. Recreational pursuits include vehicle touring, single track motorcycle touring, site seeing, camping, hunting, target shooting, hiking and backpacking. Popular destinations in the region include the Pacific Crest National Scenic Trail and its various trailheads that provide the ability for one to take a short day hike or do a point to point hike.	Front Country	Front Country	Middle Country
TMA - 4 Lancaster Subregion	Southern area of TMA, bounded by Highway 58 on the north, San Bernardino county line on the east, Angeles NF on the south, and the CDCA boundary on the west.	Assortment of scattered tracts of public land; predominantly within Los Angeles county. Open routes primarily connect private roads and provide casual OHV recreation. Extensive private land developments w/roads, power and water systems. Other developments include commercial power plant, military bases, airports, hotels, restaurants and gas stations.	Rural	Back Country	Back Country
TMA 5					
TMA 5 – Fremont Peak	Northwest corner of BFO; N boundary Ridgecrest FO W boundary Hwy395 S boundary Hwy58 & BNSF E boundary Harper dry lake	This area is in the western portion of the field office area along Highway 395. It provides popular access portals and staging areas for motorized recreation around Fremont Peak and points east. Features include Fremont Peak, the dominate landscape feature; good access, easy hike, historic mines, dry lakebeds and long roads connecting distant features. There are a few developments including scattered communication and radar sites.	Middle Country	Back Country	Back Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA 5 – Black Mountain	Northwest portion, east of and similar to Fremont peak. N boundary Ridgecrest, China Lake W boundary Fremont Peak S boundary Hwy 58 & BNSF E boundary Coolgardie	This area is relatively remote with few roads or developments. The area includes the Black Mountain Wilderness, Black and Inscription Canyons, Opal Mountain open dry lakebed Superior, and landsailing. The terrain varies from sandy expanses to rocky canyons and lava flows. The area includes extensive and significant petroglyphs and related sites; guzzlers and preserves. It is a popular 4x4 tour destination site, scenic touring and OHV play; dispersed camping, rock collecting, and hunting	Back Country	Back Country	Middle Country
TMA 5 – Harper Lake	North central portion of TMA. Wide expansive open valleys, low hills, Harper dry lake.	The north shore of the dry lakebed is the site of an ancient Native American settlement with extensive petroglyphs and springs, converted to historic farm and stage stop for Death Valley. Uses include farming, ranching, grazing, ACEC and watchable wildlife site. Historic center for stage, railroad, mining, ranching and agricultural sites, and is recently evolving into large scale industrial solar plants and transmission lines. Activities include 4x4 and OHV touring, hunting, landsailing, birding, rock collecting, photography, painting and night sky observation	Front Country	Front Country	Middle Country
TMA 5 – Coolgardie	Also north central portion TMA. Softer & rounded landscape, between Ft Irwin to north & City of Barstow to south; Calico to east & Black Mountain to west.	This area is in the north central portion of TMA5 and the Barstow field office area. It is a high plateau directly north of Barstow extending out to Ft. Irwin. It has an extensive Joshua Tree forest, with winter snow common. Gently terrain and good soils make ideal provide ideal OHV touring opportunities; extensive recreational gold mining area, active and historic uses. Soils (dg type) and slopes are well suited to 2wh drive scenic touring, 4x4 and OHV play and exploration. Features include springs, cabins, met towers and long roads connecting the horizon. Well maintained road to top of Lane Mountain provides excellent vistas.	Middle Country	Middle Country	Front Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA 5 – Mitchel Mountains	Center of BFO, south center portion of TMA. Small pocket of low rugged mountains border north side of Barstow City.	This area has few roads and trails, scattered historic mines, key communication sites on peaks, no springs; significant vista from top of Mitchel Mountain. Intensive use from urban interface includes recreation shooting, OHVs, 4x4s, mountain biking, running, hiking, dog walking, equestrian use, and geo-caching. People commonly wander and explore into fringes along city edge.	Middle Country	Middle Country	Back Country
TMA 5 – Calico Mountains	Central portion of TMA. Borders I15 on south, Ft. Irwin Rd to west & north, Alvord Mountains to east.	This area includes the rocky, rugged, colorful Calico Hills and historic mining town; Coyote dry lake in the north portion (closed). The area is very popular for target shooting, riding OHVs and general exploration. Numerous roads, trails, mines, adits, and diggings are popular for groups, jeep clubs, SRPs, exploration, hiking, equestrian, 4x4 touring and OHV play. The town includes stores, historic cemetery, restaurants, and campground, and is popular with regional, national and international tourists; There is a KOA campground at the freeway. More activities include climbing, photography, painting and commercial photography.	Front Country	Front Country	Middle Country
TMA 5 – Cronese Lake	North eastern portion of TMA. Borders I15 on south, Ft. Irwin to north; west from Coyote Dry Lake east to almost Baker.	This area is remote and rugged with numerous jagged mountains and ranges, scattered small playas, and dry upland desert lands. There are few roads, vast Soda Wilderness Study Area, occasional communication sites, power, pipe and communication lines; mountaintop communication sites and few other developments. Similar to the Afton TMA this is an ancient, historic and modern day east-west travel corridor and includes portions of Old Spanish National Historic Trail, Mormon Rd, Route 61 and Hwy15. This is the primary path travel and trade corridor between the west coast and all points east. Cronese Lake was the western border of the Anasazi Empire. The area includes a tank trail.	Back Country	Primitive Country	Back Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA 6					
TMA 6 – Edwards Bowl	Pocket area north of El Mirage, west of Hwy395, east of LA county & south of Edwards.	This area is relatively flat open desert with few scattered low hills; soft sandy flats, small dry playas and rugged rocky knolls. Numerous roads and trails crisscross the area from years of intensive OHV use, a result of staging and encroaching urban areas. The area has easy access from 3 sides. Activities include hunting (shotguns), scenic touring, communication sites, powerlines, and scattered mines. This is a fairly remote and quiet area.	Middle Country	Primitive Country	Middle Country
TMA 6 – Kramer Hills	West center portion of BFO and center of TMA. West boundary is Hwy395 & east is Helendale Rd; north boundary is Hwy59 & south boundary is Silver Lakes.	This is a relatively open area with soft sandy soils in flats and scattered rugged rocky knolls. Long straight roads seem to fade into distance. It provides areas of general exploration for nearby communities, and is popular for jeeping and scenic touring. Developments include scattered mines and powerlines.	Middle Country	Back Country	Back Country
TMA 6 – Iron Mountain	Area south of Hwy58, east of Helendale, and north of Route 66.	The major landscape feature is the Mojave River along the TMA southern boundary. Trails and roads in this area are popular for equestrian riding, hiking, scenic touring, 4x4 exploration and OHV play; hunting, photography and bird watching. Features include the Old Spanish National Historic Trail, Mormon Rd., BNSF tracks, historic mines and old stage routes north to Harper and Death Valley.	Middle Country	Primitive Country	Back Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA 7					
TMA - 7 Ridgecrest Subregion	Northeastern portion of TMA, including the community of Ridgecrest, bounded by China Lake NWS on the north and east, Golden Valley Wilderness on the south, and Hwy 395 on the west.	The region abuts the communities of Ridgecrest and Inyokern. The topography includes sloping bajadas, braided washes, and narrow canyons along with the rolling Rademacher, Spangler, and Sand Hills areas. Recreational opportunities include OHV and four wheel drive touring, hunting and target shooting, stargazing, photography, exploring mine sites, social gathering, rock hounding, hiking, running, mountain biking, and horseback riding. Prominent recreational destinations include the Rademacher Hills trail system, Goldbug Interpretive Mine Site, and the Spangler Hills Open Area and the neighboring Sand Hills.	Urban	Rural	Rural
TMA - 7 El Paso Subregion	Northwestern portion of TMA, bounded by Hwy 178 on the north, Hwy 395 on the east, Garlock and Redrock-Randsburg Road on the south and Hwy 14 on the west.	The region consist of prominent volcanic peaks (El Paso Mountains), broad valleys, rolling foothills, badlands, sloping bajadas, braided washes and narrow canyons. Popular recreational pursuits include upland game bird hunting, rock and mineral collecting, cultural site viewing, OHV touring, hiking, camping, mountain biking, horseback riding, along with commercial 4-wheel drive and dual sport tours, and competitive equestrian endurance rides. Recreational destinations include Burro Schmidt Tunnel, Bickel Camp, El Paso Mountains Wilderness, Goler Gulch and Sheep Springs.	Middle Country	Middle Country	Middle Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA - 7 Rand Subregion	Southwestern portion of TMA, bounded by Garlock and Redrock-Randsburg Road on the north, Hwy 395 and the Kern/ San Bernardino county line on the east, Hwy 58 on the south, and Hwy 14 on the west	The bajadas, alluvial fans, and undulating hills that lie between the towns of Randsburg and California City along with scattered sections of land south of California City within eastern Kern make up this area. Recreational activities within the region include OHV trail riding and touring, upland game bird hunting, rock hounding, gold prospecting, hiking, nature study, and photography. Popular destination locations include the Desert Tortoise Research Natural Area, Government Peak, and the living ghost town of Randsburg.	Middle Country	Back Country	Front Country
TMA – 7 Red Mountain Subregion	Southeastern portion of TMA, bounded by Golden Valley Wilderness and 29S Township line on the north, China Lake NWS on the east, Cuddeback Lake Road, Hwy's 395 and 58 on the south, and the Kern/San Bernardino county line on the west.	This region encompasses rolling hills, steep mountainous terrain of the Lava Mountains, and the flat desert terrain that slopes towards Cuddeback Lake. Recreational activities in the region include upland game bird hunting, wildflower viewing, cultural site viewing, photography, target shooting, dispersed camping, hiking, land sailing, horseback riding, mountain biking, and OHV touring. Additionally one can find many non-mechanized recreational opportunities within the Golden and Grass Valley Wilderness areas. Popular destinations include Steam Well, Red Mountain Spring, and Cuddeback Lake.	Middle Country	Back Country	Middle Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA 8					
TMA 8 – Stoddard Valley	Area between Victorville & Barstow, south of Hwy15; east boundary Hwy247, west boundary Mojave River.	The central portion is the Stoddard Valley OHV area; the north portion borders Mojave river with uses similar to Iron Mountain TMA. The area includes the Old Spanish National Historic Trail, Mormon Rd., Hwy 15, Route 66, springs, Sawtooth campground, Margaritaville, climbing, hiking, peak bagging, rock hounding, birding, herping, model rockets, scenic touring, equestrian uses and hunting (shotgun). The area has extensive and intensive human use and sounds, significant urban interface and regular on-going use throughout the area for 4x4 exploration and OHV play. The area includes travel facilities, powerlines, pipelines, communication sites, ranches, farms, light industry, large scale cement mines, and a few small scale wind turbines. The area includes campground host at Sawtooth, kiosks, signs, fences and regular field patrols.	Front Country	Rural Country	Front Country
TMA 8 – Ord Mountains	Nearly geographical center of field office, center north of TMA. West boundary Hwy247, east boundary Camp Rock Rd, north boundary I40 & Bartow, south is Lucerne Valley	This area is relatively remote in the sense that this area is off-set slightly east of nearby urban areas. It is a popular area for scenic touring with larger mountains separating numerous small valleys. The area has numerous springs and cacti species; includes extensive historic ranching and mining sites, and nationally significant modern day infrastructure including communication sites, powerlines and pipelines. Activities include 4x4 and OHV touring, exploration and play, SRPs, commercial filming and grazing.	Middle Country	Back Country	Middle Country

Table 3.6-1. Summary of Recreational Activities in the West Mojave Planning Area

Area	Location	Primary Destinations and Recreational Activities	Physical Settings[1]	Social Settings[1]	Administrative Settings[1]
TMA 8 – Newberry Rodman	TMA south of Hwy40 and north of Johnson Valley OHV Area; Camp Rock Rd is the west & SW boundary; east & NE boundary is powerline.	This is a rugged area containing large areas of impassable lava flows near Route 66, and rugged mountains further south in the Newberry/Rodman ranges. The area includes the large Rodman Wilderness Area and sites with extensive petroglyphs. The area includes guzzlers, communication sites, historic and active mines, grazing, gravel pits, and on-going gold prospecting; hunting (shotgun) hiking and equestrian uses.	Middle Country	Back Country	Back Country
TMA 8 – Johnson Valley	Most of TMA includes Johnson Valley OHV Area and public lands as far south and west as Hwy247.	The major feature in this area is the Johnson Valley OHV Area designated for 4x4 and OHV use, including exploration, touring, play and competition. The area is popular for large scale OHV events and competitions. It includes the Cougar Buttes area popular with trials bike SRP events and commercial filming. The area includes dry lakebeds, lava flows, rugged mountains, long valleys, springs, Creosote and Yucca Ring plan assemblies, and extensive and large scale mine operations. Sensitive areas are closed and fenced; signs, kiosks and visitor patrols help guide visitors and protect sensitive resources.	Front Country	Front Country	Front Country

[1] Settings are based on BLM Recreational Settings ranging from Urban, Rural, Front Country, Middle Country, Back Country, and Primitive.
[2] Sub-region locations are shown in Figure 2.1-1, and TMAs are based on the TMAs proposed in Alternatives 2 and 3, and shown in Figure 2.3-2.

Many of the subregions are extensively used for OHV touring, Open Areas, and motorized vehicle events. The Barstow and Lancaster subregions have relatively limited OHV recreation because they have little public land, and most of their motorized routes connect to private land and commercial developments. The Afton, Juniper Flats, Cronese Lake, and Iron Mountain subregions are the sites of historic trails, including the Old Spanish National Historic Trail, Mojave Trail, and Mormon Road. Backcountry and non-mechanized recreation are prominent in the Darwin, Sierra, North Searles, Cronese Lake, Red Mountain, and Newberry Rodman subregions.

BLM's CDCA Plan has designated several areas within the West Mojave as "Open Areas", totaling 271,661 acres. This constitutes 7.8 percent of the approximately 3.1 million acres of BLM-managed public lands in the WEMO Planning area. Open Areas are some of the most popular destinations in the desert, and the designated access routes to these Open Areas are some of the most heavily used routes on public lands. Within Open areas, unlike limited vehicle access areas, there is no "route designation." Motorized vehicles may travel anywhere, subject to site-specific access limitations, so long as the vehicle is operated responsibly in accordance with regulations. However, dispersed OHV recreationists in Open Areas generally follow a system of routes created over time that provide for touring at reasonable speeds that minimize likelihood of breakdown or vehicle damage.

In areas where the use is particularly concentrated, the density of routes can be very high. Staging areas and group camping areas are often located nearby to these areas of concentrated use. Open Areas are destinations for uses that are not available in other parts of the desert where access is limited to designated routes. The types of uses may depend on soils, topography and historic patterns of use. Table 3.6-2 briefly describes each Open Area, visitor use levels and the principal recreation activities that occur there.

Table 3.6-2. Characteristics of BLM Open Areas

Open Area	Total Size (acres)	Visits in 2012	Visitor Days in 2012	Principal Recreation Activities	OHV Use Patterns
Dove Springs	3,840	54,597	162,654	OHV activities include motorcycle hill climbing, ATV/quad use. Non-OHV activities include camping, shooting, and hunting.	The entire Dove Springs open area is used for camping and OHV driving. OHV driving centers on riding up and down the hillsides using all types of OHVs.
El Mirage	25,600	95,264	179,835	Approximately 50% of the activity is not typical OHV activity (i.e. motorcycles, quads, jeeps). The dry lakebed attracts visitors with experimental vehicles, aircraft, land wind sailors, etc. The predominant OHV activity is motorcycle use.	Most use is concentrated on and around the dry lakebed. Significant motorcycle use takes place away from the lakebed towards the mountains to the northwest. Visitors generally stay on long-established routes. Permitted events, sightseeing, camping, and dispersed camping occur in the area.

Table 3.6-2. Characteristics of BLM Open Areas

Open Area	Total Size (acres)	Visits in 2012	Visitor Days in 2012	Principal Recreation Activities	OHV Use Patterns
Jawbone Canyon	7,000	52,259	155,601	Predominantly dirtbike motorcycle use engaging in hill climbing activities, as well as dual sport motorcycle and 4WD touring/sightseeing.	Camping areas are concentrated along three miles of the Jawbone Canyon Road. OHV users enjoy the challenge of riding up and down hillsides throughout the canyon. The steepness of the hillsides that riders use varies from moderate to extremely steep.
Johnson Valley	96,000[1]	204,002 (combined Johnson and Stoddard[2])	511,491 (combined Johnson and Stoddard[3])	Unrestricted OHV recreation. Predominantly dirt bike motorcycle use, as well as dual sport motorcycle and 4WD touring/sightseeing. Permitted events, camping, and dispersed camping occur in the area.	Primarily "Green Sticker" motorcycle use participating in "trail riding". Approximately 50% of that use takes place in the form of permitted "organized" events (e.g., races).
Rasor	22,400	4,095	8,159	Predominantly dirt bike motorcycle use, as well as dual sport motorcycle and 4WD touring/sightseeing. Camping, dispersed camping, and sightseeing occur in the area.	Dispersed OHV use.
Spangler Hills	62,080	2,549	6,309	Predominantly dirtbike, motorcycle use, as well as dual sport motorcycle and 4WD touring/sightseeing. Organized competitive events also occur here.	The area provides many OHV routes through open, gentle desert terrain. There are more challenging routes through hills along the sides of the open area. Three popular camping areas are Teagle Wash, Wagon Wheel, and east of US 395.
Stoddard Valley	54,400	204,002 (combined Johnson and Stoddard)	511,491 (combined Johnson and Stoddard)	Predominantly dirtbike motorcycle use, as well as dual sport motorcycle and 4WD touring/sightseeing. Permitted events, camping, and dispersed camping occur in the area.	OHV use is widely dispersed. Approximately 50% of the use is estimated to be associated with permitted events. Heaviest use occurs at staging areas. Visitors tend to stay on pre-existing routes as the terrain becomes rougher and as they travel away from the staging areas.

[1] *This includes the 53,000-acre Shared-Use Area as well as the remaining 43,000 acres which now constitute the Johnson Valley Off-Highway Vehicle Recreation Area in PL 113-66.*

[2] *These numbers include some level of use in the portion of the JV OHV Area prior to the military expansion under PL 113-66, which had yet to be implemented on the ground.*

[3] *Ibid.*

Table 3.6-2. Characteristics of BLM Open Areas

Open Area	Total Size (acres)	Visits in 2012	Visitor Days in 2012	Principal Recreation Activities	OHV Use Patterns
Olancha Dunes	341	13,584	8,558	Unrestricted OHV recreation. Predominantly ATV and Dune buggy use with some motorcycle use.	The dune system in the area provides a beginner to intermediate level riding experience. This is due to the fact that the dunes are small compared to other dune systems in the CDCA, such as those found at Dumont or the Imperial Sand Dunes. In addition to OHV use the dunes have been used for commercial photography purposes.

3.6.2 Trends

3.6.2.1 General Recreation Trends

Table 3.6-3 provides the numbers of visitors and visitor days at a variety of recreational sites since 1999, including campgrounds, trails, special-interest (archeological and geological) sites, information centers, and OHV areas. In general, use levels at the sites which are not focused on OHV use range on the order of hundreds or thousands of visitors and visitor hours per year. However, the level of OHV-focused activities, such as use of Open Areas, is frequently on the order of several hundred thousand visitors and visitor hours per year, reflecting the popularity of OHV use as a recreational activity in the Planning Area.

California's population is increasing rapidly. The State's population is projected to grow from 34 million in 2000 to 46 million by 2035 (California Department of Finance 2013). The population of the planning area is projected to grow from 795,000 in 2000 to more than 1.5 million people by 2035. This increase in population is reflected in an increase in use of public lands for recreation throughout the Planning Area, as shown in Table 3.6-3. The total levels of recreational use are about the same in the Barstow and Ridgecrest Field Office areas, on the order of about 800,000 to 1 million visitors and visitor hours in each area in 2012. This level of use is approximately double the levels in both areas in 1999.

3.6.2.2 Trends in OHV Use

California has the greatest number of OHV recreation enthusiasts in the country. Its 3.5 million recreationists constitute 14.2% of all California households. Since 1980, however, the number of acres available to OHVs for dispersed recreation has decreased 48 percent in California's deserts alone (from 13.5 million acres in 1980 to 7 million acres in 2000). At the same time, OHV "green sticker" registrations have increased by 108%. Attendance at the State of California's State Vehicular Recreation Areas (SVRAs) increased from 1985 to 2000 by 52%. Registration of OHVs through the California Department of Motor Vehicles increased from 235,003 in 1980

to a peak of 1,135,919 in 2008. Since 2008, the number has declined every year to 905,366 in 2013.

OHV Vehicle Trends: Californians have embraced the sport utility vehicle (SUV). As SUV sales increase, the demand for off-highway opportunities for SUV owners is also on the rise. Simultaneously, there have been notable declines in motorcycle sales in California concurrent with steady increases in ATV and SUV sales. As a consequence, there appears to be a trend toward wider trails for larger off-highway vehicles (i.e., SUVs) as opposed to single-track trails used for motorcycling.

The Recreational Off-Highway Vehicle (ROV) is fast becoming the OHV of choice due to its size (smaller than a truck/SUV but larger than an ATV) and cost. Sometimes referred to as side-by-sides or UTVs, ROVs are motorized off-road vehicles designed to travel on four or more non-highway tires, with a steering wheel, non-straddle seating, seat belts, an occupant protective structure, and engine displacement up to 1,000cc. Current models are designed with seats for a driver and one or more passengers. ROVs currently in the market are specifically designed for an operator age 16 or older and one or more passengers.

The increase in California's population has caused significant increases in urban development. Expansion of development in high desert cities may reduce the land area available for rural OHV recreation areas, and has occurred against a backdrop of decreasing availability of public land access. The expansion of the Twenty-Nine Palms marine base resulted in an additional withdrawal of 152,500 acres, of which 98,547 acres are public land that was available to motorized and non-motorized recreational use. This is the loss of 98,547 from the largest OHV Area in the U.S. A portion of this area, approximately 53,000 acres, is to be managed as a Shared Use area. The Shared Use Area (SUA) will be available for 10 months of the year for recreational use, including the King of the Hammers event.

The listing as threatened or endangered of species and conservation of sensitive habitats has also resulted in area closures to OHV access. Wilderness designations have also resulted in large areas that are no longer accessible to OHV. Air pollution controls imposed by the California Air Resources Board's Red Sticker Program have restricted the use of two-cycle engine motorcycles in OHV riding areas to a limited number of months in the year instead of year-round. Motorized touring on popular historic trails has been restricted in places to preserve the historic integrity of the trails, making them less accessible to many users.

The levels of OHV use have generally not been affected by livestock grazing. Both OHV use and grazing use varies widely at any particular time in grazing allotments, but few conflicts occur between these two uses, whether or not stocking rates are high or low. Where range fences are built to restrict and direct cattle movements, route access on open routes is maintained and cattle movements are restricted at openings in fences across open routes using cattle guards or gates. Major OHV restrictions at range improvements in grazing allotments are generally for resource protection, such as riparian areas, rather than due to grazing activities and conflicts. OHV Trends are generally unaffected by stocking rates or the retirement of allotments.

Access for Disabled and the Elderly: A few improved non-motorized trails have been developed on public land to provide better access for the disabled and elderly. The number of these trails is limited by the resources available for intensive design costs and maintenance levels. Also, these publics desired experiences not readily available on other federal and State lands. Therefore, access for disabled and elderly focus on providing and enhancing motorized

touring opportunities. In 1994, surveys were conducted at the Oceano Dunes SVRA. This survey revealed that approximately 9% of all those surveyed had within their group a disabled individual who was able to access the dunes and beach because vehicles were allowed in those areas. Increasing numbers of senior citizens want to experience remote outdoor areas via OHV access. As the baby-boomer population continues to age, they find it increasingly difficult to access these areas without the use of off-highway vehicles.

Behavioral Trends: Motorized access can be for a variety of purposes, including economic pursuits, to access private property, and for recreation such as touring, hunting, accessing trailheads or unique resource values, and rockhounding. With expanded leisure time, conflicts have arisen between those who use vehicles as a means of access and those who operate vehicles as a recreational activity. Safe access by the public to the desert is primarily provided by motor vehicle. However, many members of the public are concerned that increased use of motorized vehicles decreases the unique values, such as scenic values and quiet spaces, which attract many recreationists to the desert. As use levels increase, available land for recreational pursuits decreases, and local landowners are concerned with trespass by OHV recreational users.

Tread Lightly is a national nonprofit OHV organization with a mission to promote responsible recreation through ethics education and stewardship programs. Tread Lightly's environmental educational message, along with its training and restoration initiatives are strategically designed to instill an ethic of responsibility in OHV enthusiasts. Their program is long-term in scope with a goal to balance the needs of the people who enjoy outdoor recreation with our need to maintain a healthy environment. This program has educated many OHV users on being respectful and responsible land users.

At the El Mirage Off-Highway Vehicle (OHV) Area there is a program for youth called Junior Ranger Program specifically designed for responsible off road riding behavior. Either a BLM Park Ranger or an employee of the Friends of El Mirage will teach a group of young people about the principles of safe riding with the addition goal of gaining an appreciation of their riding environment. The program is free to the public and is offered most weekends during the riding season. The program promotes principles of responsible outdoor recreation to empower youth to do their part and help sustain OHV recreation.

OHV enthusiasts have donated their time to projects combating erosion, replanting recently burned forests, trash collection, renovating trails to improve rider safety, patrolling of OHV areas, being campground hosts, and more to promote responsible use. Such volunteerism is an indication of the commitment that most OHV enthusiasts share to conserve the environment and future opportunities to experience the desert.

Technological Improvements: OHV manufacturers have made huge strides in improving their vehicles to minimize excessive noise. Since 1990, noise levels from motorcycle dirt bikes have decreased from 96 to 88 decibels. Noise reduction can also be accomplished by utilizing specific design and construction techniques in OHV areas, through careful trail planning and construction of berms to impede or dissipate sound. Further technological innovations are being made to reduce noise, and air pollution.

Table 3.6-3. Number of Visitors and Visitor Days in West Mojave, 1999-2012

Area		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Barstow Field Office															
Afton Canyon															
Afton Canyon Campground	Visits	1166	1450	1028	826	777	1130	397	1038	1138	49249	772	752	394	n/a
	Visitor Days	1060	1318	1194	1501	1412	2053	721	1886	2067	89469	1402	1365	716	n/a
Afton Canyon Natural Area	Visits	1267	1181	1330	2189	3478	2379	1684	2157	1943	1584	2106	3363	2107	2106
	Visitor Days	297	277	316	529	841	575	407	521	470	383	509	813	509	509
Afton Group Area Campground	Visits	428	451	607	560	1219	1177	446	511	513	418	557	838	556	556
	Visitor Days	392	413	819	1027	2235	2158	818	937	941	766	1021	1537	1019	1019
Dispersed Use	Visits	11293	10355	2064	5458	9333	4996	3643	4190	5264	3428	4561	7664	4561	4561
	Visitor Days	3021	2770	529	1333	2279	1220	889	1023	1285	837	1114	1871	1114	1114
Mojave Road	Visits	1370	1533	1746	1961	4986	3171	4200	4830	4850	3646	5193	8312	6295	5257
	Visitor Days	229	255	291	337	831	889	700	805	808	608	866	1385	1049	876
Total Afton Canyon	Visits	15524	14970	6775	10994	19793	12853	10370	12726	13708	58325	13189	20929	13913	12480
	Visitor Days	4998	5033	3149	4727	7598	6895	3535	5172	5571	92063	4912	6971	4407	3518
Barstow, Extensive															
Calico Early Man Site	Visits	1615	2431	2609	1419	1541	1662	1272	1455	1467	1195	1590	2886	2161	1588
	Visitor Days	170	423	454	247	368	289	222	253	256	208	277	1776	673	277
Dispersed Use	Visits	172981	175022	543051	516213	502202	504158	326228	425199	427073	348117	463958	735801	463729	463798
	Visitor Days	77457	78077	273994	296422	288043	288602	187458	243281	244321	199320	267357	421596	266645	267802
Juniper Flats Intensive Use Area	Visits	7324	4166	7067	6362	6362	6124	5130	5883	5908	4832	6405	9638	6422	6422
	Visitor Days	1154	656	1288	1336	1336	1286	1077	1235	1241	1015	1345	2024	1349	1349
Lucerne Dry Lake Specialized Sport Site	Visits	0	0	0	532	1458	1097	734	898	1035	913	964	1829	1099	917
	Visitor Days	0	0	0	435	1236	914	612	748	886	786	809	6122	916	764

Table 3.6-3. Number of Visitors and Visitor Days in West Mojave, 1999-2012

Area		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Mojave Road	Visits	532	878	840	753	2303	2332	572	653	656	533	711	1124	712	712
	Visitor Days	89	146	140	126	384	389	95	109	109	89	119	187	119	119
Total Barstow, Extensive	Visits	182452	182497	553567	525279	513866	515373	333936	434088	436139	355590	473628	751277	474123	473437
	Visitor Days	78780	79232	275876	298566	291267	291480	189464	245626	246813	201418	269907	431705	269702	270311
Desert Discovery Center															
Information Center	Visits	4795	2347	4405	5108	4294	5452	4160	3092	11	3634	11	9395	0	5493
	Visitor Days	296	145	347	485	408	518	395	294	1	345	1	893	0	522
Dispersed Use	Visits	0	0	6	16	15	534	12	2059	4527	493	5040	8063	0	4831
	Visitor Days	0	0	0	1	1	44	1	172	377	41	420	672	0	403
Total Desert Discovery Center	Visits	4795	2347	4411	5124	4309	5986	4172	5151	4538	4127	5051	17458	0	10324
	Visitor Days	296	145	347	486	409	562	396	466	378	386	421	1565	0	925
El Mirage															
Dispersed Use	Visits	99278	142953	129573	123801	140873	153154	91980	99578	99739	83683	116356	170401	66684	95264
	Visitor Days	105844	162548	182517	208557	237986	255289	150973	173940	168802	141793	196441	276768	119591	179835
Total El Mirage	Visits	99278	142953	129573	123801	140873	153154	91980	99578	99739	83683	116356	170401	66684	95264
	Visitor Days	105844	162548	182517	208557	237986	255289	150973	173940	168802	141793	196441	276768	119591	179835
Rasor															
Dispersed Use	Visits	13891	14522	13934	8175	6677	4555	3275	4568	4896	3078	4998	6509	4349	4095
	Visitor Days	14863	15539	19803	16289	13304	9076	6525	9102	9755	6133	9959	12969	8665	8159
Mojave Road	Visits	853	838	878	715	815	777	1752	1832	1838	1497	1992	2988	1992	1992
	Visitor Days	142	140	19949	119	136	130	1189	305	306	250	332	498	332	332
Total Rasor	Visits	14744	15360	14812	8890	7492	5332	5027	6400	6734	4575	6990	9496	6341	6087
	Visitor Days	15005	15679	19949	16408	13440	9206	7714	9407	10061	6383	10291	13467	8997	8491

Table 3.6-3. Number of Visitors and Visitor Days in West Mojave, 1999-2012

Area		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Stoddard and Johnson															
Anderson Dry Lake Staging Area	Visits	8024	5794	8526	10515	12665	13214	9773	12711	12096	11583	12236	31132	14677	15256
	Visitor Days	6748	3624	7352	11035	11610	12113	8959	12758	11088	13587	11216	34050	20035	20637
Cougar Buttes Intensive Use Area	Visits	694	1226	3640	3854	10323	14038	9347	8417	8137	8252	8391	13657	10231	10537
	Visitor Days	432	830	6381	9120	9472	13242	8271	5774	5721	7842	5649	9561	13737	11754
Dispersed Use	Visits	102814	84783	124808	128583	79388	96652	93491	98870	81669	77330	149053	157663	98722	97432
	Visitor Days	42730	61592	107597	152722	92901	112176	124994	135148	89941	94117	242937	215208	126960	128846
Means Dry Lake Intensive Use Area	Visits	2281	1887	1469	4292	5915	4510	4802	5364	5257	4520	15698	24592	21616	38332
	Visitor Days	3835	1482	1096	3620	6057	3616	4753	4731	4214	3718	12585	89175	120197	317292
Sidewinder Road Staging Area	Visits	7992	8214	11869	10110	12898	12342	5914	6802	7336	5558	6974	16215	9568	8179
	Visitor Days	5968	5928	19570	7586	9652	9236	4426	5090	6017	4159	5219	27336	8464	6121
Slash-X Staging Area	Visits	7686	5601	7583	7420	11298	9667	3890	4475	6495	10730	4872	7311	8599	4871
	Visitor Days	9705	3577	4281	5540	8436	7218	2905	3341	9905	26875	3638	5459	11706	3637
Soggy Dry Lake Intensive Use Area	Visits	2094	3414	8723	10660	19199	17265	13573	16920	15994	15238	15762	26501	19146	14772
	Visitor Days	1300	2120	6191	9382	15873	13970	11001	13759	12950	20148	12754	27283	21442	12389
The Rockpile Staging Area	Visits	4024	4266	8873	3298	14151	15689	10298	14187	16465	10615	14123	22695	14124	14623
	Visitor Days	6415	5351	14319	2963	9917	10995	7217	10103	12931	7439	9898	17842	9899	10815
Total Stoddard and Johnson	Visits	135609	115185	175491	178732	165837	183377	151088	167745	153449	143826	227108	299766	196683	204002
	Visitor Days	77133	84504	166787	201965	163918	182566	172526	190704	152757	177885	303896	425914	332440	511491
Superior/Rainbow															
Dispersed Use	Visits	29424	26577	18656	28047	22890	17890	4417	5080	5101	4354	5451	8836	5520	5555
	Visitor Days	8607	7774	6011	10599	8747	6945	1645	1892	1900	1622	2030	3655	2235	2186

Table 3.6-3. Number of Visitors and Visitor Days in West Mojave, 1999-2012

Area		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Harper Dry Lake	Visits	1133	1358	1940	2136	2032	1620	1497	1935	1902	1585	2106	3346	2227	2106
	Visitor Days	189	226	323	356	339	270	250	323	317	264	351	558	371	351
Owl Canyon Campground	Visits	1635	2311	1552	1537	1443	1312	533	845	930	2000	1025	925	748	134
	Visitor Days	1542	2180	1588	2817	2644	2404	977	1548	1704	3665	1878	1696	1371	246
Owl Canyon Group Campground	Visits	749	694	822	992	888	698	630	732	726	592	787	1184	1253	788
	Visitor Days	831	770	1115	1783	1596	1255	1132	1300	1305	1064	1415	2128	2252	1416
Rainbow Basin Natural Area	Visits	2534	2962	1381	2396	7563	5421	3994	4594	4332	3310	4477	9945	4999	4999
	Visitor Days	507	592	276	479	1513	1084	799	919	866	662	895	1989	1000	1000
Total Superior/Rainbow	Visits	35475	33902	24351	35108	34816	26941	11071	13177	12991	11841	13846	24237	14747	13582
	Visitor Days	11676	11542	9313	16034	14839	11958	4803	5982	6092	7277	6569	10026	7229	5199
Total for Barstow Field Office	Visits	487877	507214	908980	887928	886986	903016	607644	738866	727298	661967	856168	1293564	772491	815176
	Visitor Days	293822	358683	657938	730949	729457	757956	529411	631297	590484	627205	792437	1166416	742366	979770
Ridgecrest Field Office															
Eastern Sierra															
Dispersed Use	Visits	5124	5000	15000	165036	58722	18001	18120	18268	20754	21164	23298	23300	22836	22902
	Visitor Days	4142	3896	13750	151274	84965	16501	16610	16746	19024	19400	21356	21358	20933	20994
Owens Peak Trailhead	Visits	14625	15050	13000	6000	16550	23588	22987	20875	19605	19527	18648	19500	18720	9572
	Visitor Days	13699	10811	12177	5620	15360	18319	21531	19563	18369	18290	17467	18265	17534	8966
Sacatar Trailhead	Visits	2420	2800	0	2000	4860	4400	4423	4412	3760	3784	3621	3712	3608	3706
	Visitor Days	2077	1299	0	1717	4171	3777	3796	3787	3227	3248	3108	3186	3097	3181
Short Canyon Trailhead	Visits	14211	15000	0	2800	12810	33000	32869	32987	13143	13421	11598	12177	11924	11503
	Visitor Days	4932	5206	0	1103	5044	12994	12942	12989	5175	5285	4567	4795	4695	4529

Table 3.6-3. Number of Visitors and Visitor Days in West Mojave, 1999-2012

Area		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Eastern Sierra	Visits	36380	37850	28000	175836	92942	78989	78399	76542	57262	57896	57165	58689	57088	47683
	Visitor Days	24850	21212	25927	159714	109540	51591	54879	53085	45795	46223	46498	47604	46259	37670
El Paso Mountains															
Boral Corral Pit Shooting Range	Visits	2320	2000	2501	6000	2056	3500	4051	4392	5564	7502	6301	6020	5939	6223
	Visitor Days	358	292	521	875	300	510	610	875	836	1188	934	878	866	908
Dispersed Use	Visits	18189	18805	20000	14335	22068	30784	31317	30999	40273	40139	46573	49188	47712	48270
	Visitor Days	14025	14574	15500	10999	17012	23108	24147	23948	31174	31089	35762	37921	36977	37275
El Paso Mountains Trailhead	Visits	5423	11051	5500	30000	20680	29000	28988	25369	22198	22045	500	733	779	752
	Visitor Days	3977	6815	4033	15000	15165	21267	21258	18604	16279	16166	367	467	528	551
Last Chance Canyon Trailhead	Visits	5124	5000	10400	1200	780	4101	4098	4048	2698	3587	100	36555	3590	36455
	Visitor Days	7700	7646	15903	1835	1193	6271	6267	6190	5655	5485	153	55899	5490	55746
Total El Paso Mountains	Visits	31056	36856	38401	51535	45584	67385	68454	64808	71733	73273	53474	92496	58020	91700
	Visitor Days	26060	29327	35957	28709	33670	51156	52282	49617	53944	53928	37216	95165	43861	94480
Mojave															
Cache Peak PCT Trailhead	Visits	758	2370	1500	1345	4800	5500	5763	5771	5769	5803	5826	5900	5889	5815
	Visitor Days	1352	3178	2675	2399	8560	5072	10277	10292	10288	10349	10390	10522	10502	10370
Desert PCT Trailhead	Visits	585	1005	450	375	2713	8100	8222	8231	8156	7988	7821	8000	7801	7813
	Visitor Days	1043	853	803	669	4838	9370	14663	14679	14545	14245	13947	14267	13912	13933
Dispersed Use	Visits	2877	2500	7000	45000	14490	23500	24000	24621	23249	23598	24607	24611	24365	24590
	Visitor Days	3896	3385	9479	60938	19622	31823	32500	33341	31483	31956	32807	33326	32994	33037
Total Mojave	Visits	4220	5875	8950	46720	22003	37100	37985	38623	37174	37389	38254	38511	38055	38218
	Visitor Days	6291	7416	12957	64006	33020	46265	57440	58312	56316	56550	57144	58115	57408	57340

Table 3.6-3. Number of Visitors and Visitor Days in West Mojave, 1999-2012

Area		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Rand Mountain															
Desert Tortoise Natural Area	Visits	7158	17520	4000	15000	33211	39200	39469	39443	38821	38765	9325	9675	9486	9512
	Visitor Days	1694	4146	947	3550	7860	9293	9341	9335	9188	9174	2207	2290	2245	2251
Dispersed Use	Visits	7677	7450	8200	8000	19300	50000	49876	5244	5429	5702	5828	6524	6263	6345
	Visitor Days	4371	4271	4701	4587	11065	28667	28596	3007	3113	3578	3783	3773	3591	3638
Rand Mountain and Fremont Valley Intensive Use Area	Visits	7985	7600	7800	7775	33950	0	0	50358	50287	50007	44297	50009	39900	40017
	Visitor Days	4079	3882	3985	3972	17343	0	0	25725	25688	25545	22628	25544	20382	20442
Total Rand Mountain	Visits	22820	32570	20000	30775	86461	89200	89345	95045	94537	94474	59450	66208	55649	55874
	Visitor Days	10144	12299	9633	12109	36268	37960	37937	38067	37989	38297	28618	31607	26218	26331
Red Mountain															
Dispersed Use	Visits	16395	15900	16000	16042	39721	44880	45034	46140	46539	46490	48971	49696	48571	49106
	Visitor Days	29668	29084	29267	29000	72498	80835	82265	84233	85016	84960	89310	89798	88724	88993
Golden Valley Trailhead	Visits	3524	7040	3500	20050	8300	4300	4400	4461	4387	4291	3921	4154	3898	4035
	Visitor Days	1968	3432	1954	8850	4634	2401	2457	2491	2449	2396	2189	2317	2176	2253
Grass Valley Trailhead	Visits	2578	4900	2500	2450	6600	8900	8832	8769	8648	8297	8045	8150	7980	8127
	Visitor Days	1439	2396	1396	1368	3685	4969	4931	4896	4828	4632	4492	4550	4456	4538
Spangler OHV Area	Visits	33128	30500	0	82828	60121	12683	18519	20630	27169	26157	27331	27725	2389	2549
	Visitor Days	92088	92542	0	244002	173130	5721	44867	50764	69610	66186	76093	72844	1821	6309
Steam Wells	Visits	489	300	0	320	2350	1123	1099	1250	1287	1327	1306	1340	1314	1213
	Visitor Days	143	88	0	93	685	328	321	365	375	387	381	391	383	354
Summit Range Intensive Use Area	Visits	3542	3000	0	2000	82500	89222	9822	9879	7986	7955	7943	7999	7859	7903
	Visitor Days	3129	2650	0	1767	72875	78813	8676	8726	7054	7027	7016	7066	6942	6981

Table 3.6-3. Number of Visitors and Visitor Days in West Mojave, 1999-2012

Area		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Red Mountain	Visits	59656	61640	22000	123690	199592	161108	87706	91129	96016	94517	97517	99064	72011	72933
	Visitor Days	128435	130192	32617	285080	327507	173067	143517	151475	169332	165588	179481	176968	104502	109428
Ridgecrest															
Argus Range Trailhead	Visits	1200	3200	4000	7700	10400	21000	21246	21097	20876	21006	19985	20017	19216	19248
	Visitor Days	1080	2200	3600	6930	9360	18900	19121	18987	18788	18905	17987	18015	17294	17323
Ayers Rock	Visits	0	0	5000	1600	1749	2100	2088	1946	1896	1786	1763	1776	1769	1782
	Visitor Days	0	0	600	133	146	175	174	162	158	149	147	148	147	149
Briggs Cabin	Visits	NA	NA	NA	NA	NA	NA	2068	NA	NA	NA	2319	NA	NA	2273
	Visitor Days	NA	NA	NA	NA	NA	NA	2275	NA	NA	NA	2551	NA	NA	2500
Coso Range Trailhead	Visits	1520	3720	2000	1765	5410	2100	2450	2364	2359	2351	2243	2300	2208	2198
	Visitor Days	3167	3062	4167	3677	11271	4375	5104	4925	4915	4898	4673	4792	4600	4579
Darwin Falls Trailhead	Visits	1225	350	700	725	6992	3800	3810	3754	3623	3587	3421	3541	3470	3434
	Visitor Days	1286	368	735	761	7342	3990	4001	3942	3804	3766	3592	3718	3644	3606
Dispersed Use	Visits	77834	26900	53800	980	83593	7628	18580	20318	20816	22024	24013	24768	25172	26694
	Visitor Days	79675	51477	45506	907	71200	7673	15894	17324	17745	19011	20472	21454	21534	23239
Fossil Falls Trailhead	Visits	30150	58700	59300	30000	41000	31000	31245	31356	31562	31571	31549	31560	30361	30373
	Visitor Days	24346	47400	47885	24225	33108	25033	25230	25320	25486	25494	25476	25485	24517	24526
Fossil Falls Campground	Visits	0	450	1700	250	1168	2143	465	571	193	177	155	233	215	199
	Visitor Days	0	300	1133	167	779	1429	310	395	137	118	103	155	331	306
Keynot Mine Cabin	Visits	NA	NA	NA	NA	NA	NA	208	NA	NA	NA	168	NA	NA	102
	Visitor Days	NA	NA	NA	NA	NA	NA	118	NA	NA	NA	95	NA	NA	58
Kopper King Cabin	Visits	NA	NA	NA	NA	NA	NA	30	NA	NA	NA	32	NA	NA	36
	Visitor Days	NA	NA	NA	NA	NA	NA	17	NA	NA	NA	18	NA	NA	20

Table 3.6-3. Number of Visitors and Visitor Days in West Mojave, 1999-2012

Area		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Lower Centennial Canyon Cabin	Visits	350	300	25	30	1041	2200	1865	1873	1798	1782	1695	1699	1611	1615
	Visitor Days	198	170	14	17	590	1247	1057	1061	1019	1010	961	963	913	915
Olancha Dunes OHV Area	Visits	4100	4100	4150	4300	3110	14700	14822	14688	14721	14784	14206	14212	13578	13584
	Visitor Days	2583	2583	2615	2709	1959	9261	9338	9253	9274	9314	8950	8954	8554	8558
Rademacher Hills Intensive Use Area	Visits	26550	53550	26601	49000	37300	68600	68479	68569	69165	69480	69354	69774	69624	69504
	Visitor Days	9470	19100	9488	17477	13304	24467	24428	24456	24669	24784	24736	24808	24815	24790
Ridgecrest Field Office Information Center	Visits	500	500	1000	1350	1600	1150	1500	1600	1723	1854	1116	1120	998	2124
	Visitor Days	30	30	23	82	97	69	91	97	104	1125	67	68	60	1775
Salt Wells Corrals Information Center	Visits	20100	20100	20200	21000	12800	28000	26250	27313	27453	27287	26973	27001	26482	26648
	Visitor Days	854	854	859	893	544	1190	1116	1162	1167	1160	1146	1148	1125	1133
Trona Pinnacles	Visits	17535	0	20000	23900	20000	21300	22003	22588	23257	23356	24687	24692	24454	24532
	Visitor Days	16074	0	18000	21908	18333	19525	20169	20706	21319	21410	22630	22634	22416	22488
Total Ridgecrest	Visits	181064	171870	198476	142600	226163	205721	217109	218037	219442	221045	223679	222693	219158	224346
	Visitor Days	138763	127544	134625	79886	168033	117334	128443	127790	128585	130131	133604	132342	129950	135965
Southern Sierra															
Bright Star Trailhead	Visits	2575	7050	4500	4250	7244	3501	3486	3398	3005	3021	2900	2847	2790	2815
	Visitor Days	7292	8512	7500	7083	12073	5835	5810	5663	5008	5035	4833	4745	4650	4692
Cameron Ridge PCT Trailhead	Visits	650	2130	1500	1575	11311	6700	6856	6798	6783	6687	5803	5821	5762	5780
	Visitor Days	1159	2733	2675	2809	20171	6366	12227	12123	12096	11925	10349	10381	10276	10308
Dispersed Use	Visits	55570	54900	55500	55000	82220	49000	49233	52461	53143	53007	51993	48596	64000	60824
	Visitor Days	75002	74344	75156	74479	111340	65864	66177	70516	71433	71250	69403	65233	86027	81488

Table 3.6-3. Number of Visitors and Visitor Days in West Mojave, 1999-2012

Area		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Dove Springs OHV Area	Visits	30100	30142	30200	32000	42000	55000	57320	57981	58497	50138	54150	73747	45000	54597
	Visitor Days	89924	90049	90223	95600	125475	163854	170766	172735	174272	149369	191071	219705	134063	162654
Dove Springs PCT Trailhead	Visits	540	1060	530	625	3511	7000	6954	6845	6798	6759	6191	6196	6022	6164
	Visitor Days	963	994	945	1115	6261	5378	12401	12207	12123	12054	11041	11050	10739	10992
Jawbone OHV Area	Visits	25555	25600	25500	26250	37111	61000	60890	59834	59791	53574	47337	87820	51000	52259
	Visitor Days	76346	76480	76181	78422	110869	181628	181300	178156	178028	159517	140897	259454	151853	155601
Jawbone Station Information Center	Visits	10106	11000	11000	18000	14682	6500	14421	11193	10201	10631	6575	4425	5514	400
	Visitor Days	438	477	477	780	636	282	625	485	442	461	285	192	239	174
Kiavah Trailhead	Visits	5833	12200	6500	5800	9023	38000	37891	21671	21631	21491	15985	15867	15231	15344
	Visitor Days	9722	13133	10833	9667	15038	63333	63152	36118	35885	35818	26642	26445	25385	25573
Robbers Roost Climbing Area	Visits	585	800	1200	1400	2364	5900	5924	6023	5964	5978	5550	5347	5293	5249
	Visitor Days	263	360	540	630	1064	2655	2666	2710	2684	2690	2498	2406	2382	2362
Total Southern Sierra	Visits	131514	144882	136430	114900	209466	232601	242975	226204	225713	211286	206484	250126	200612	207054
	Visitor Days	258109	267082	264530	270585	402927	495195	515124	490713	491971	448119	457019	599611	425614	453844
Total Ridgecrest Field Office	Visits	466710	491543	452257	716056	882211	872104	821973	810388	801877	789880	736023	827787	700593	737808
	Visitor Days	592652	595072	516246	900089	1110965	972568	989622	969059	983932	938836	939580	1141412	833812	915058

NA – Not Available.

3.6.3 Off-Highway Vehicle Use

Users of OHVs engage in many different types of recreation in the Mojave Desert. These can be categorized into two general groups: (1) Where the driving of the vehicle is itself the recreational activity, and (2) Where the vehicle is a means of access to other forms of recreation.

3.6.3.1 Driving OHVs for Recreation

There are various types of OHV recreation. These include general vehicular touring, motorcycle recreation, and ATV and four-wheel-drive use (4WD).

General Vehicular Touring

Many people engage in recreational touring. Such touring allows visitors to see vast areas of the desert while spending less time on the land itself and providing more control over potential desert safety risks. OHV touring may occur on both flat and mountainous terrain using SUVs, jeeps and similar vehicles.

OHV touring vehicles, such as the popular SUV, have 4WD capabilities to handle off-road conditions and are designed to be comfortable for normal street usage. They do not have to be towed by another vehicle to particular staging areas; rather, they can be driven on the highway and, when opportunity presents itself, they can follow a dirt trail. Vehicles that have 4WD capability have a broader range of access opportunities because they can traverse different types of terrain features and meet or exceed highway safety standards.

In the mid-1980s, off-road enthusiasts, and state and local government agencies collaborated to provide a system of interconnected roads and "jeep" trails. Today, over 600 miles of trails have been designated by the State of California as "Back Country Discovery Trails." A goal of this trail system is to provide a backcountry opportunity for non-traditional trail users, such as persons with disabilities, senior citizens, and families with small children.

The California Backcountry Discovery Trail (CBDT) system is one of shared-use. Equestrians, hikers, and cyclists are welcome, although the trail system is designed for off-road enthusiasts. The existing roads that make up the "principle route" network were selected with a stock, SUV in mind. The CBDT network provides recreationists with an abundance of OHV touring opportunities. "Alternate trails" departing and later rejoining the principle route provide more challenging experiences and are open to green sticker vehicles.

Motorcycle Recreation

Many desert recreationists engage in motorcycling and motorcycle events. In most (but not all) cases, the motorcycles, equipment and supplies have to be transported to the desired locations by street-legal vehicles, such as SUVs. Motorcycle touring provides a unique opportunity to get off the beaten path and experience areas of the WEMO Planning area that are not accessible to other motorized users.

One popular activity is dual sport motorcycling. Dual sport motorcycles are designed to perform off-road, and they are also “street-legal” for operation on paved roads. Therefore, the use of a street-legal vehicle to transport the bike is not necessary. A person using this type of motorcycle

can enjoy riding on the highway, and then go off-road when the desired trail is reached. The dual sport motorcycle gives the rider a broader and more flexible recreational experience.

There are also many popular motorcycle events that occur in the study area, including enduros, hare n' hound, hare scramble, and European scrambles. These events allow participants to ride in varying types of terrain, which present different challenges and require varying degrees of skill. Many of these events occur in OHV Open Areas, on a fairly regular basis. Several types of events also can occur on the designated competitive "C" routes outside of Open Areas. Table 3.6-4 presents a descriptive summary of motorcycle events that can occur outside of OHV Open Areas on the "C" routes in the WEMO Planning area.

Table 3.6-4. Types of Motorcycle Events Outside of OHV Open Areas

Name	Type of Start	Speed Event?	Comments
European Scramble	Mass	Y	The race course is ten miles, using a mass start by class.
Hare Scramble	Mass	Y	The race course contains a 30 mile loop repeated for stronger riders.
Hare & Hound	Mass	Y	The race course is two thirty-mile loops configured as a figure 8, not repeating the same track in the second loop. The second loop continues with only the more advanced riders.
Enduro	Staggered	N	This is a time-controlled event and speeds can be slowed through sensitive areas. Riders lose two points for every minute they are early to the finish and one point for every minute they are over the specified course time.
Dual Sport Ride	NA	NA	This is a tour event and portions of the ride can be on paved routes as well as off road. The participant numbers can be limited to 50 to 100 entrants and speeds can be limited as well.

Each year there are a few commercial tours and dual sport rides that take place on BLM land. These activities generally use well-defined public land vehicle routes. These tours typically involve motorcycle and 4WD sightseeing and exploration tours. There are generally two types of commercial tour events: guided and unguided (self-guided), which are described below.

- Guided Tours: A typical guided tour operator might lead three to ten tours each year, with participants following a trail leader. The group stops together several times during the day to see and learn about various natural and manmade features. The trip leader is generally an expert on the particular area and is able to relay information pertaining to natural and historic resources to participants. These are often organized by local or regional natural history, geology, or environmental clubs or educational institutions.
- Unguided Tours (including Dual Sport Events): Dual Sport Events, those events designed for street-legal motorcycles capable of off highway travel, are the best example of unguided tours. In these events, participants are given a map and "Roll Chart" that depict the tour route turn by turn. There is no element of competition so participants may arrive at the final destination at their convenience. Often "bail out" opportunities are identified

so that participants can safely leave the off highway portion of the route to return to paved roads and the final destination on their own.

ATV and "Technical" 4WD Recreation

ATVs are small motor vehicles with wheels or tractor treads for traveling over rough ground. They often have 4WD capability. ATVs are often viewed as being more agile than other 4WD vehicles and can access narrower routes since they are relatively small and handle like motorcycles. ATVs, however, are only allowed to accommodate one person unless designed for two by the manufacturer. ATVs are not appropriate for dual sport activities, since they are not legal on public highways.

Typical 4WD vehicles (SUVs and jeeps) have fairly similar capabilities, including the capability to travel off-road on rocky terrain. They are significantly larger than ATVs, as they can accommodate several passengers, supplies and equipment. 4WD vehicles such as SUVs and jeeps often have "dual sport" capabilities and perform efficiently both on regular streets, roads, and highways, as well as off-road. SUVs are generally used to traverse relatively flat, yet rough, terrain, while jeeps with their narrower and shorter wheelbase are more capable of negotiating rougher terrain than a typical stock SUV.

Technical 4WD vehicles constitute a class of vehicle that includes jeeps, trucks, and SUVs that have been significantly modified from their "stock" condition. Through the addition of specialty tires, transmissions, engines, and suspensions, these vehicles are less functional in open-highway situations, but very effective in traversing otherwise impassable routes (e.g. large boulders). "Rock-crawling" is an example of an activity that utilizes vehicles of this class. Travel is typically very slow (i.e. less than 5 mph) over and around rocks, in contrast to SUV and even jeep touring. Enthusiasts must possess a high level of technical "four-wheeling" skill. They may even employ the use of power winches to pull the vehicle over the more difficult rock formations. The challenge in technical 4WD use is to apply one's skills to cross the rocks, rather than tour large regions.

Competitive Events

BLM permits about 90 competitive events annually. These include about 70 OHV events and 20 equestrian, mountain biking and running events. Most of these events occur in the Spangler Hills, Stoddard, and Johnson Valley Open Areas.

The current system of Competitive "C" routes are designated routes outside of the Spangler Hills Open Area upon which competitive motorized races are allowed to occur. The designation of the original system of "C" routes to the northeast, south, and west of the Spangler Hills OHV Open Area, comprising approximately 50 miles, occurred in the OHV Area Management Plan (1993). During the development of the Spangler Hills OHV Area Plan many public comments wanted to see the Spangler Hills OHV Open area expanded to include as much as possible of the original Desert Plan's 1980 Spangler/Rademacher Open Area Planning Unit. In response to these comments, the concept of the "C" routes was developed—to provide for some competitive motorized opportunities in the area while maintaining the natural character of the landscape.

Prior to the implementation of the CDCA Plan, competitive events were very popular in the desert and occurred both in and outside of Open areas. The Summit Range area south of the Spangler Hills was classified as an Open Area; thus cross-country travel was allowed. The

CDCA Plan changed the Summit Range area to a limited access area, and the MUC in the area to moderate use. Therefore, after 1980 vehicles were required to stay on existing routes of travel. The CDCA Plan specifically allowed for competitive events on all existing routes of travel in limited access areas as long as mass starts and camping remained inside open areas. The area was used in this manner until the temporary listing of the desert tortoise in August, 1989. From 1989 until 1993, no competitive events occurred outside of Spangler Hills or other Open Areas.

With the adoption of the Spangler Plan (pg. 14) and supporting BO (pgs. 2, 6-8), from 1993 until 2001 competitive motorized events were allowed to take place under permit on the designated "C" routes. In 2001 competitive events were discontinued on the "C" routes as a result of the Stipulated Settlement Agreement reached between the BLM and the Center for Biological Diversity. In 2006 "C" routes were partially reopened with the WEMO Plan ROD being signed. The 20 miles to the northeast were reopened to competitive use while the southern and western area routes were not (2005 WEMO Final EIS pg. 2-163).

Similarly in 1980, three competitive corridors were identified to provide long-distance opportunities for competitive motorized races to cross through limited access lands. None of these have been run since the designation of critical habitat in the WEMO Planning area in 1989. Three of the four have been subsequently eliminated in the land-use plans. Routes used in the past for the competitive events generally are now used for long-distance opportunities for non-competitive motorized events.

The Stoddard Valley to Johnson Valley non-competitive connector route was illustrated generally on the oversize maps accompanying the 2006 WEMO Plan (Maps 2-1, 2-15, 2-16, 2-17, 2-19 and 2-21). Slight deviations from the illustrated path have been made to avoid private land where permission to cross has been denied.

Non-motorized competitive events in the planning area are not necessarily restricted to designated routes of travel. These events, because they are competitive, do require a permit and will have an identified course. Non-motorized or non-mechanized events are generally directed to designated routes out of resource concerns, and staging areas may be restricted or precluded in areas based on their location or elements of ACEC or other activity plans. Non-participant motorized support vehicles would be restricted to specified designated routes of travel.

Compliance With Regulations

Compliance has generally improved since the implementation of the CDCA plan. With the exception of a few areas, OHV free play has gradually moved to the OHV open areas. Compliance is most problematic in popular areas of historic OHV use and adjacent to local communities. Compliance has been most effective when a pro-active approach to vehicle management is used, including the identification of outstanding recreation opportunities to direct recreationists to, such as through quality signing and mapping to help visitors locate appropriate opportunities, as well as through enforcement and additional education efforts. Limitations to resources, including sign replacement, law enforcement and rehabilitation resources have historically been issues in further improving compliance.

3.6.3.2 Driving OHVs to Access Other Recreation

Many visitors use a vehicle as a means to attain a recreation end, rather than as the end itself. This recreation type falls into two classes: (a) point and (b) dispersed forms of recreation.

Point Forms of Recreation

Often an OHV is driven to a specific destination such as a scenic geologic or cultural site, trailhead, staging area, or campsite. For instance, equestrians use an OHV to tow horse trailers and other equipment to designated staging areas where they can set up for horseback riding. The recreational activity is not the driving of the OHV itself, it is merely used to access the staging area for the equestrian ride. Similarly, hikers may use an OHV to travel to a trailhead; once there, the recreationist would then begin their hike.

Dispersed Forms of Recreation

This form of recreation is more dependent upon vehicle use than point forms of recreation, but the use of the vehicle is still not viewed as the primary source of recreation. For instance, a recreationist who desires to photograph a particular species of wildlife or wildflower may hike, ride a horse or use an OHV to search for a subject. Driving a vehicle is not the primary recreation; photography is. Because there is no specific destination, this form of recreation is referred to as "dispersed" rather than "point."

3.6.4 Non-Motorized Use (Mechanized and Non-Mechanized)

The public lands along with the designated road and trail systems provide many opportunities for travel by both mechanized and non-mechanized means. Mechanized travel is moving by means of a mechanical device that is not powered by a motor such as a bicycle or land sailer. While non-mechanized travel is movement by foot, horseback, or other animal-powered travel. Common forms of non-motorized travel that occurs within the WEMO Planning area include mountain biking, land sailing, horseback riding, backpacking, running, walking, and hiking.

Many non-motorized and non-mechanized activities occur on more remote multiuse trails that also accommodate motorized users. Popular camping areas including Afton Canyon, Rainbow Basin/Owl Canyon, Sawtooth Canyon, Sand Canyon and Short Canyon. These popular destinations serve as staging areas for non-motorized exploration of the surrounding area.

The Rademacher Hills Trail (RHT) is a 14 mile network of trails which extends through the desert terrain on the south side of Ridgecrest. The RHT is comprised of trail segments which pass through a variety of terrain. These segments provide differing degrees of trail difficulty ranging from open flat desert to steep rocky ridges. The trail system is designed to provide the opportunity for both loop trips as well as point-to-point trips.

The Pacific Crest National Scenic Trail extends along the entire western boundary of the planning area, connecting the San Bernardino and Angeles Mountains with the Sierra Mountains. In the southern portion of the planning area, the PCT is almost completely located on private land. The central and northern portions of the trail in the WEMO Planning area, comprising about 80 miles, include substantial portions of public land. However, this is a small portion of the more than 2,800 miles of this nationally designated trail. The 80-mile segment starts at Tylerhorse Canyon outside of the community of Rosamond in the south and extends to just north of Bird Springs Pass where the trail enters the Sequoia National Forest.

The Harper Lake ACEC includes a 1-mile system of wheelchair accessible trails that pass over and offer views of a marshy wetland and lake with migrating and nesting birds of all types.

Sawtooth Canyon, adjacent to the campground, provides a unique recreational experience for rock climbers. Up the side of the canyons pitons have been put in place by area climbers to serve as anchors and climbing aids for subsequent users.

Much non-motorized use in the WEMO Planning area occurs in the backcountry off of designated routes. Recreationists stage along designated routes or parking areas, and explore the backcountry on their own. Local recreationists, particularly equestrians, will stage from their property or corrals near public lands.

3.6.5 Facilities, Improvements, and Special Uses

The BLM has developed facilities and made improvements at locations that attract many recreational users during their travels into the west Mojave desert region. Some of these developed facilities include Harper Lake, Fossil Falls, Calico Early Man Site, Rainbow Basin Natural Area, and Trona Pinnacles. Campground facilities have been developed for both individuals as well as groups at Sawtooth Canyon, Afton Canyon, Owl Canyon, and Fossil Falls.

Additionally, there are three Visitor Centers run by the BLM within the WEMO Planning area. Those are the Desert Discovery Center located in downtown Barstow, the El Mirage Visitor Center located on the shores of El Mirage Dry Lake, and the Jawbone Station Visitor Center located at the entrance to the Jawbone Canyon Open Area.

These facilities have proven to be very popular stop off location for both OHV recreation enthusiasts and the public as a whole, as well as providing educational outreach with local organizations and schools. They provide maps, books, interpretive displays, and environmental education to all who stop by. In addition, specific environmental classes of all types and OHV safety classes are offered.

Rand Mountain Permit Program

Off-highway vehicle use within the Rand Mountains Management Area (RMMA) and the Western Rand Mountains ACEC has gone through significant changes over the years. From 1973 until 1980 the area was designated as "Open" which allowed vehicle travel anywhere in the area, and the area hosted numerous competitive OHV events. In the 1980 CDCA Plan, vehicle use within the area was changed to being allowed on "existing routes of travel" and no more motorized competitive events were allowed. Then the Rand Mountains Fremont Valley Management Plan was approved in 1994, an approved route network was designated, and the miles of routes approved for use was reduced from a network of approximately 764 miles down to 129 miles, according to the Plan. Much evidence of the routes that were not included in the approved network still remains on the ground, due to their historic use.

In 2006, the BLM adopted the 1994 network, expanded the ACEC, and approved a visitor use permit program for motorized vehicle use in the Rand Mountains in WEMO, to manage impacts to sensitive resources in the area. Visitors to the area are required to complete a short educational orientation program and once this was completed could purchase a permit. The goal of the Permit program is to increase compliance with applicable rules and regulations. A fee for these permits covers the cost of managing the permit program. In 2008, implementing this new program was begun in a two phased approach. The first phase is underway, which focuses on outreach and education of users, and implements a no cost permit for motorized vehicle use of

the area. The second phase of the program has not yet been initiated, and would require the completion of the educational course and the payment of the fee for use of the area.

To date the program is currently in Phase 1. Visitors desiring to use motorized vehicles on the designated route system within the area are able to receive a free permit after they are informed of the use regulations for the area and certify they understand the designated route network and agree to only operate vehicle on the designated routes in the management area. The continued need and feasibility of implementing this visitor use permit system is of concern to the BLM due to use pattern changes, quantity of entry ways, and the man power needed to implement.

3.6.6 Recreation Safety

As discussed above, recreation in the WEMO Planning area is dependent on the availability of motorized routes to either directly support recreational uses, or to provide access to recreation areas. Therefore, the analysis of impacts in Chapter 4 is primarily linked directly to mileage of routes available for various recreational activities. Another factor affecting recreation is the potential for safety hazards to exist along these routes. In the planning area, a common safety hazard is abandoned mine features, of which 10,254 have been inventoried by BLM in the planning area. These features commonly include human-dug excavations which may be visually prominent or may be masked by vegetation or soil. These excavations can be entered accidentally if they located within the stopping, parking, and camping distance from the route. Similarly, they can be entered intentionally, and the odds of this occurring are highest when the feature is closest to a motorized route. Therefore, BLM has evaluated the mileage of routes within 100 feet of an inventoried safety hazard as a factor in considering the impact of the route network on recreation.

3.7 Grazing

3.7.1 Grazing Allotments

There are a total of 27 public land grazing allotments (areas designated as suitable for grazing of domestic livestock) within the West Mojave (WEMO) Planning area, of which eight are inactive and not grazed. Two of these allotments have been donated back to BLM and permanently retired from grazing under the authority of the 2012 Appropriations Act. The type of livestock and type of forage allocation for allotments have been designated in the BLM's CDCA Plan. Allotments are designated as ephemeral, perennial, or ephemeral/perennial based on the type of forage that is available on the allotment. Cattle, sheep, and, horses, or a combination of these may be authorized to graze on an allotment. Table 3.7-1 indicates the livestock type and forage type designated for each allotment.

Under the Taylor Grazing Act, allotments are classified under Section 3 as a grazing permit or under Section 15 as a grazing lease. Allotments with perennial forage have an established limit of forage based on the quality and quantity of perennial plants, stated in animal unit months (AUMs) for a defined period of grazing use. An AUM is a measure of perennial or ephemeral feed that will support a cow and its calf, a ewe and its lambs, or a bull for one month. Perennial forage consumption is typically authorized at the same level from year to year unless forage production does not meet seasonal norms. When the CDCA Plan (1980) originally allocated AUMs for forage consumption for livestock use it occasionally suspended AUMs for forage allocations to wildlife and for poor rangeland conditions to improve watershed stability.

In contrast, grazing use in allotments with ephemeral forage does not have an established level or specified period of use. Instead, the amount and length of grazing use in any particular season or year is based on ephemeral production and determined just prior to authorizing the grazing use. In the WEMO Planning area, minimum forage production is 230 lbs/acre to authorize ephemeral grazing for a season for most of the planning area. The 2006 WEMO Plan authorized ephemeral sheep grazing on two allotments within portions of the Fremont-Kramer DWMA. In these areas the minimum forage production is 350 lbs/acre to authorize ephemeral grazing. This level of forage is anticipated to provide sufficient forage for both domestic livestock and wildlife, and still provide ample seed source to sustain production in subsequent years within the planning area.

In most cases, BLM authorizes grazing by permit or lease for a period of 10 years. A shorter period of time is sometimes issued for special circumstances, such as to accommodate a shorter-term lease of the base property or when the Authorized Officer determines that a shorter- term authorization is in the best interest of range management. Additionally, temporary, non-renewable grazing authorization may be issued for special short-term needs such as trailing, or when there is short-term surplus forage available for grazing. All permits and leases are subject to modification and to annual adjustments. Such modifications are implemented through consultation between the permittee or lessee and the BLM, and consistent with terms of applicable biological opinions and Section 106 of NHPA review.

The permit or lease identifies mandatory terms and conditions that specify the number, kind and/or type of livestock that may graze the allotment, and the grazing period (usually with specific beginning and ending dates). In addition, many permits and leases also require adherence to prescribed grazing prescriptions in the form of grazing systems, such as deferred,

deferred-rotation, or rest-rotation. Other authorizations may have conditions pertaining to turnout dates based on vegetation conditions. Based on range type, season of use and range condition all permittees and lessees have specific grazing utilization thresholds and other specified terms and conditions to protect site-specific areas such as riparian areas, wildlife habitat, and special status plant populations. These terms and conditions have been developed in consultation and cooperation between BLM and the livestock operator, were developed based on decisions made in the 2006 WEMO Plan, are the result of the 2006 WEMO Plan, and/or may be the result of biological opinions, other resource management strategies, or another planning effort.

There are 105 natural water sources located on the 20 currently active grazing allotments within the WEMO Planning area. Natural water sources include seeps, springs and creeks. There are also 47 wells and manmade water sources on the active grazing allotments in the planning area. The standard distance to place salt or mineral blocks from natural water sources (riparian areas) is one quarter mile. The one-quarter mile requirement is a standard term and condition for most grazing permits and leases issued in the WEMO Planning area where natural water sources occur within a grazing allotment. This requirement is also a proposed regional guideline.

Frequently, the permittee or lessee elects to graze fewer livestock than the full amount of grazing authorized under the active preference (permitted use) for the grazing season. Sometimes this is due to environmentally related factors such as droughts or fires, and in other cases it may be to accommodate the livestock operator's need to adjust livestock numbers for marketing or livestock husbandry purposes. Normally, the BLM will authorize the requested amount of non-use on a short-term basis. In rare situations, the BLM may temporarily authorize another qualified applicant to graze the amount of authorized non-use in an allotment, depending upon the reason for non-use.

Grazing use of perennial vegetation in all of the active allotments that have been grazed since 1992 (on at least a periodic basis) is expected to continue at lower stocking rates overall, except where the permittee or lessee voluntarily relinquishes their lease or permit. In 2012, Congress passed the Consolidated Appropriation Act of 2012. A provision of that act allows for the reallocation of forage from livestock use to wildlife use consistent with the donation language contained in Section 122 (b) of the Act. The donation language in this act specifically states that "the Secretary shall accept the donation of any valid existing permit or lease authorizing grazing on public lands within the California Desert Conservation Area." The Lava Mountain and Walker Pass Common Allotments have been relinquested under the authority of this act. Overall, livestock producers have voluntarily reduced stocking rates for much of the 1990s and 2000s, resulting in less livestock use than the lease or permit allows. In 1992, a high of 78,314 AUMs were authorized in the CDD for both sheep and cattle use. Between 2006 and 2014, the AUMs authorized within the West Mojave Planning Area ranged from almost 6,000 AUMs in 2006 to just 1,561 AUMs in 2013 for all classes of livestock (BLM, Rangeland Administration System (RAS)). Both cattle and sheep grazing have been authorized under existing biological opinions in desert tortoise habitat (see Appendix Q).

Since 1992, lessees with allotments classified as ephemeral/ perennial have not requested, nor has grazing been authorized for, ephemeral forage or temporary non-renewable (TNR) perennial forage within the southern half of the WEMO Planning area. During the same period, lessees and permittees in the higher, more northern desert portions of the WEMO Planning area have routinely requested ephemeral authorizations, and have requested and been authorized to use

TNR perennial forage when conditions allowed. Table 3.7-1 shows the years in which perennial forage was utilized in allotments.

The authorization of sheep grazing in ephemeral allotments is common in both field office areas in years when sufficient forage production occurs. However, the number of ephemeral sheep allotments, the numbers of sheep, and the number of woolgrowers have substantially declined over the last 10 years. Three allotments were eliminated by the WEMO Plan, and one additional allotment and substantial portions of another can no longer be grazed due to their proximity to bighorn sheep habitat.

The 2006 Biological Opinion from FWS prepared for the 2006 WEMO Plan concluded the following: "The Valley Well Allotment occupies 480 acres east of Highway 247; it is authorized for 24 animal unit months and has been grazed 5 of the last 10 years. The Bureau's biologist recommended that it not be included in the Ord-Rodman Desert Wildlife Management Area because of its proximity to the base property of the rancher and its degraded condition (Chavez 2004). This allotment is within the boundaries of the Ord-Rodman Critical Habitat Unit. Because of the small size of the allotment, its degraded condition, and location adjacent to the heavily used Highway 247 and other human disturbances, we do not consider that it supports the primary constituent elements of critical habitat and will not discuss it further in this biological opinion."

In 2005, the Army purchased the base property for the Harper Lake, Cronese Lake and Cady Mountain Allotments as mitigation for the expansion of Ft. Irwin Army Training Center. These allotments remain inactive and vacant.

Additional descriptions of specific allotments are available in the 2006 WEMO Plan Volume II, Appendix O. In addition, more recent, allotment specific Environmental Assessments (EAs) were prepared for the actively grazed allotments after the 2005 WEMO Final EIS was published. Additional information on the allotments can be found in these EAs, and they are included by reference. Updates on specific resources and associated impacts such as soils from these EAs have been incorporated into the analysis in Chapter 4 of this SEIS. The grazing EAs are available for download from the California NEPA website or can be requested from the local BLM offices.

Table 3.7-1 presents the most current information on each cattle and sheep grazing allotment, and Table 3.7-2 describes BLM's most recent environmental evaluation and current grazing status on each allotment. Table 3.7-3 depicts the acreages of grazing allotment in DWMAs, ACECs and in designated wilderness areas and Table 3.7-4 displays the riparian Unusal Plant Assemblages (UPAs) and their currently assessed conditions within grazing allotments in DWMAs.

3.7.2 Motorized Access to Allotments and Range Improvements

Motorized access is required for all aspects of range management. Most access to allotments occurs via designated routes. Motorized access to range improvements and fences is generally limited to the authorized permittee or lessee, depending on the duration and frequency of activities and the sensitivity of the resources in the area. During cattle grazing activities, motorized access is intermittent and light in most of the allotment except during gathering and redistribution of livestock. These activities are concentrated in specific areas that comprise a very small portion of the allotment, and are accessed several times a season, including with

larger trucks for transport of the animals. For cattle and horse allotments, the concentration areas are identified in the permit/lease or planning documents, and do not change from year to year without further analysis.

Ephemeral sheep grazing, by contrast, involves a more dispersed motorized access and a good deal of constant pedestrian use of the allotment. Individual herders that accompany the sheep, herd the animals to different portions of the allotment from grazing season to grazing season, depending on the relative production and past use. Sheep are accompanied by the herder, who travels with a trailer that is parked adjacent to the access route, and moves about with the herd. The size, number, and location of trucks and trailers is modest, and few areas are refrequented on a regular basis. Sheep are watered at temporary troughs via a water truck. Watering and bedding areas are dispersed throughout the allotment, and are typically sited in previously disturbed areas. In Chapter 4, BLM uses the mileage of routes in close proximity to range improvements as an indicator of impacts to access for grazing operators. There are a total of 191 inventoried range improvements throughout the WEMO Planning area.

Table 3.7-1. Affected Grazing Allotment Information

Allotment Name	Allotment Acres		Active AUMs	Range Type[1]	Livestock Type	Season of Use[2]	Number of Years Grazed 1992-2005	Number of Years Grazed 2006-2013	Multiple Use Class
	Public Land	Total							
Antelope Valley[1]	7,158	7,871	0	Ephemeral	Sheep	NA	2	1	U
Boron[1]	11,202	82,892	0	Ephemeral	Sheep	NA	7	4	U
Bissell[1]	777	48,889	0	Ephemeral	Sheep	NA	9	4	U
Buckhorn Canyon[4,6]	7,634	27,053	NA	Ephemeral	Sheep	NA	0	0	C
Cady Mountain[4,6]	160,104	231,897	2,010	Ephemeral/ Perennial	Cattle	Y-L	0	0	I
Cantil Common[1]	202,897	233,693	0	Ephemeral	Sheep	NA	10	4	L/C/I/M
Cronese Lake[4,6]	48,509	65,304	500	Ephemeral/ Perennial	Cattle	Y-L	0	0	I
Double Mountain[4,6]	2	576	38	Perennial	Cattle	5/1-11/30	0	0	U
Hansen Common[1]	34,848	72,102	354	Ephemeral/ Perennial	Cattle and Sheep	12/1-9/30	14	5	L
Harper Lake[4,6]	18,118	20,918	600	Ephemeral/ Perennial	Cattle	Y-L	13	0	I
Johnson Valley[4,6]	109,186	118,320	NA	Ephemeral	Sheep	NA	1	0	M
Kelso Peak[1]	2,718	2,718	132	Perennial	Cattle	Y-L	0	0	C
Lacey-Cactus-McCloud[5]	147,488	157,051	1,425	Perennial	Cattle	11/1-5/31	9	0	L
Monolith-Cantil[1]	10,825	14,739	0	Ephemeral	Sheep	NA	8	4	L
Oak Creek[4,6]	23	177	16	Perennial	Cattle	NA	0	0	U
Olancha[1]	13,762	15,876	606	Perennial	Cattle	4/1-6/30	8	5	L
Ord Mountain[2]	128,308	143,968	3,632	Ephemeral/ Perennial	Cattle	Y-L	14	8	I
Pilot Knob[4,6]	38,994	45,619	0	Ephemeral	Cattle	NA	5	0	L/C

Table 3.7-1. Affected Grazing Allotment Information

Allotment Name	Allotment Acres		Active AUMs	Range Type[1]	Livestock Type	Season of Use[2]	Number of Years Grazed 1992-2005	Number of Years Grazed 2006-2013	Multiple Use Class
	Public Land	Total							
Rattlesnake Canyon[2]	26,832	28,757	1,081	Ephemeral/ Perennial	Cattle	Y-L	14	8	I
Round Mountain[1]	15,253	18,093	880	Ephemeral/ Perennial	Cattle	12/1-3/31	8	6	L
Rudnick Common[1]	163,842	236,184	6,736	Ephemeral/ Perennial	Cattle and Sheep	Y-L	14	8	L/C/U
Shadow Mountain[1]	16,965	86,384	NA	Ephemeral	Sheep	NA	8	2	M
Spangler Hills[1]	57,695	69,141	0	Ephemeral	Sheep	NA	7	2	I/M/C
Stoddard Mountain[1]	16,889	173,297	NA	Ephemeral	Sheep	NA	8	2	M
Tunawee Common[7]	51,729	55,931	1,889	Perennial	Cattle and Sheep	2/16-5/31	9	5	L/C
Valley Well[2]	480	480	24	Ephemeral/ Perennial	Horses	Y-L	14	8	C
Warren[1]	584	584	55	Perennial	Sheep	Y-L	7	0	I

(1) Those allotments classified as ephemeral (E) produce forage from primarily ephemeral (annual) plants. Those allotments classified as perennial (P) produce forage from perennial grass and shrubs. Those allotments with ephemeral and perennial (E/P) forage have a mixture of both range (forage) types.

(2) The period livestock typically graze forage on the allotment. Grazing use on some allotments is authorized to occur all year long or YL. The grazing period of use does not apply (NA) to ephemeral allotments because grazing use occurs when forage is available.

(3) Darwin Allotment has been recently absorbed into Lacey-Cactus McCloud Allotment.

(4) Allotments are inactive and not used.

(5) Lacey-Cactus-McCloud (LCM) Allotment was evaluated in an EA in 2013; as a result the LCM Allotment has absorbed the Darwin Allotment, which is not yet reflected in these numbers.

(6) Allotment is also proposed for relinquishment in the preferred alternative of the DRECP.

(7) Grazed only by sheep at this time.

(8) Grazing currently only occurs in the North area. Grazing is suspended in the Middle and South areas due to fires, poor condition of range improvements, and, in the South, automobile hazards.

(9) The allotment has been permanently retired through the authority of the 2012 Appropriations Act (Public Law 112-74, sec 122b).

Table 3.7-2. Status of Grazing Allotments

Allotment Name	EA Prepared and DR approved for grazing lease/permit renewal	Date of EA	Other Info Received on Status	Status
Antelope Valley	Yes	April 24, 2007		Active-10 yr. permit
Boron	Yes	April 24, 2007		Active-10 yr. permit
Bissell	Yes	April 24, 2007		Active-10 yr. permit
Buckhorn Canyon	No	N/A	No existing lease, to be relinquished or permanently retired.	This allotment is proposed to be unavailable for ephemeral sheep grazing in the preferred alternative. The AUMs would be reallocated for wildlife and ecosystem functions.
Cady Mountain	No	N/A	No existing lease, to be relinquished or permanently retired.	This allotment is proposed to be unavailable for livestock grazing in the preferred alternative. The AUMs would be reallocated for wildlife and ecosystem functions.
Cantil Common	Yes	April 24, 2007		Active-10 yr. permit
Cronese Lake	No	N/A	No existing lease, to be relinquished or permanently retired.	This allotment is proposed to be unavailable for livestock grazing in the preferred alternative. The AUMs would be reallocated for wildlife and ecosystem functions.
Darwin	No	N/A	Being incorporated into Lacey-Cactus-McCloud, will no longer be stand-alone allotment.	This allotment has been incorporated into the LCM Allotment.
Double Mountain	No	N/A	No existing lease, to be relinquished or permanently retired.	This allotment is proposed to be unavailable for livestock grazing in the preferred alternative. The AUMs would be reallocated for wildlife and ecosystem functions.
Gravel Hills	No	N/A	Allotment classified as no longer available by WEMO 2006.	This allotment was classified as "no longer available for ephemeral sheep grazing" by WEMO 2006 (see LG-26).

Table 3.7-2. Status of Grazing Allotments

Allotment Name	EA Prepared and DR approved for grazing lease/permit renewal	Date of EA	Other Info Received on Status	Status
Hansen Common	Yes	April 24, 2007, revised September 2008		Active-10 yr. permit
Harper Lake	No	N/A	No existing lease, to be relinquished or permanently retired.	This allotment is proposed to be unavailable for livestock grazing in the preferred alternative. The AUMs would be reallocated for wildlife and ecosystem functions.
Johnson Valley	No	N/A	Elements within the 2006 WEMO Plan have precluded the authorization of ephemeral sheep grazing within all or portions of these allotments. No existing lease, to be relinquished or permanently retired.	This allotment is classified as "no longer available for ephemeral sheep grazing." based on its proximity to occupied habitat for Bighorn Sheep and the 9-mile rule adopted by the 2006 WEMO Plan. The allotment is proposed to be unavailable for livestock grazing in the preferred alternative. The AUMs would be reallocated for wildlife and ecosystem functions.
Kelso Peak			EA in progress.	Active
Lacey-Cactus-McCloud	Yes	July 2011	Approved August 13, 2013	Active-10 yr. permit
Lava Mountain	Yes	April 24, 2007	Relinquished in February, 2013, under authority of the 2012 Appropriations Act (Public Law 112-74, sec 122b).	This allotment has been permanently retired through Congressional act. The AUMs have been reallocated for wildlife and ecosystem functions.
Monolith-Cantil	Yes	April 24, 2007		Active-10 yr. permit

Table 3.7-2. Status of Grazing Allotments

Allotment Name	EA Prepared and DR approved for grazing lease/permit renewal	Date of EA	Other Info Received on Status	Status
Oak Creek	No	N/A	Elements within the 2006 WEMO Plan have precluded the authorization of ephemeral sheep grazing within all or portions of these allotments. No existing lease, to be relinquished or permanently retired.	This allotment is proposed to be unavailable for livestock grazing in the preferred alternative. The AUMs would be reallocated for wildlife and ecosystem functions.
Olancha	Yes	May 2007		Active-10 yr. permit
Ord Mountain	Yes	July 2007		This is currently an active cattle allotment within a DWMA as allowed through formal consultation with FWS (see 1-8-03-F-58) -10 year grazing lease.
Pilot Knob	In process	Est. 2015	Allotment has been voluntarily relinquished.	This allotment was classified as "no longer available for ephemeral cattle grazing" by WEMO 2006 (see LG-10), and AUMs have been reallocated for wildlife and ecosystem functions under the terms of the voluntary relinquishment.
Rattlesnake Canyon	Yes	June 2007		This is an active cattle allotment, portions of which are located in non-critical habitat for the desert tortoise, as allowed through formal consultation with FWS (see1-8-03-F-58) -10 year grazing lease.
Round Mountain	Yes	September 2007		This is an active cattle allotment outside of habitat for the desert tortoise-10 year grazing lease.
Rudnick Common	Yes	April 24, 2007, revised July 2007		Active-10 yr. permit
Shadow Mountain	Yes	August 2007		Active-10 year grazing lease. Ephemeral sheep grazing restricted to portions of this allotment outside DWMA and critical habitat for the desert tortoise.

Table 3.7-2. Status of Grazing Allotments

Allotment Name	EA Prepared and DR approved for grazing lease/permit renewal	Date of EA	Other Info Received on Status	Status
Spangler Hills	Yes	April 24, 2007		Active-10 yr. permit
Stoddard Mountain	Yes	April 2007		Active. Ephemeral sheep grazing restricted to portions of Middle Stoddard outside of the Mojave Monkey Flower Conservation Area-10 year grazing lease.
Superior Valley	No	N/A	Allotment classified as no longer available by WEMO 2006.	This allotment was classified as "no longer available for ephemeral sheep grazing" by WEMO 2006 (see LG-26).
Tunawee Common	Yes	October 2008		Active-10 yr. permit
Valley Well	Yes	March 2007		Active. This is a small domestic horse allotment. Grazing is authorized and allowed to continue in critical habitat for the desert tortoise based on formal consultation with the FWS (1-8-07-F-37R) -10 year grazing lease.
Walker Pass Common	Yes	April 24, 2007	Relinquished in May, 2013, under the authority of the 2012 Appropriations Act (Public Law 112-74, sec 122b).	Allotment permanently retired through Congressional act. The AUMs have been reallocated for wildlife use and ecosystem functions.
Warren	Yes	April 24, 2007		Active-10 yr. permit

Table 3.7-3 Acres of Grazing Allotments in DWMAs, Wilderness, and ACECs

Special Designation Unit	Cantil Common	Buckhorn Canyon	Cronese Lake	Harper Lake	Ord Mountain	Shadow Mountain	Johnson Valley	Total Acres
Fremont-Kramer DWMA	6,196	0	0	0	0	596		6,792
Ord-Rodman DWMA	0	0	0	0	117,290	0	429	117,719
Superior-Cronese DWMA	0	0	25,875	15,936	0	0		41,811
Black Mountains Wilderness	0	0	0	6,839	0	0		6,839
Newberry Mountains Wilderness	0	0	0	0	6,938	0		6,938
Rodman Mountains Wilderness	0	0	0	0	17,462	0		17,462
Black Mountain ACEC	0	0	0	0	0	0		0
Cronese Basin ACEC	0	0	10,190	0	0	0		10,190
Mojave Monkeyflower ACEC	0	0	0	0	7,729	0		7,729
Rodman Mountains Cultural Area ACEC	0	0	0	0	1,673	0		1,673
Totals	6,196							217,153

Table 3.7-4 Riparian UPAs in DWMA Grazing Allotments

Allotments (DWMA)	Riparian UPA	Assessed Condition
Ord Mountain	Upper Sweetwater Spring - West	PFC
Ord Mountain	Upper Sweetwater Spring - East	FAR – No Apparent Trend (Stable)
Ord Mountain	Lower Sweetwater Spring	PFC
Ord Mountain	Willow Spring	FAR – Upward Trend
Ord Mountain	Kane Spring	FAR – Upward Trend
Ord Mountain	Badger Spring	Non-functional (source not locatable)
Harper Lake	No natural springs	N/A
Cronese Lake	No natural springs	N/A

Table 3.7-4 Riparian UPAs in DWMA Grazing Allotments

Allotments (DWMA)	Riparian UPA	Assessed Condition
Cantil Common	No natural springs	N/A
Shadow Mountain	No natural springs	N/A
Buckhorn Canyon	No natural springs	N/A

3.8 Energy Production, Utility Corridors, and Other Land Uses

Most land uses in the West Mojave (WEMO) Planning area require the provision of some sort of motorized access. Land uses on public lands primarily consist of a number of different types of approvals for commercial, private or other governmental purposes. Land uses authorized on public lands include a wide variety of industrial and commercial development, examples of which are pipelines, roads, transmission lines, commercial filming, small and large scale industrial sites, power facilities, mines, and communication sites. Types of authorizations range from permits and leases (including Recreation and Public Purpose Act leases) to right-of-way (ROW) grants.

3.8.1 General Land Uses Affected by Transportation Network

Access within the boundaries of new facilities is generally handled through a plan of development. Roads within facility boundaries are managed as additional facilities equivalent to other structures, and are not available for public access without the permittee's permission and oversight. Authorizations generally are issued with a set of stipulations that prescribes allowable development with associated design features to address site specific resource values. Permitted access restrictions may also be considered when there are access safety issues, when routes dead-end beyond a project, if the project is short-term or temporary, and in consideration of associated impacts, or to manage sensitive resources.

Authorized land uses can affect the transportation network and other resources in several ways. Most authorizations include provisions for access to the site during facility construction or operation. These provisions can include authorization for use of existing routes, or authorization to construct and use new routes. Authorization for use of these access roads often includes route maintenance activities or requirements, and therefore these are frequently some of the best maintained routes on public lands. Most frequently, public use of these routes precedes authorized use since each applicant for a permit, plan of development, or ROW is strongly encouraged to propose an existing, open route to access their project site. Therefore, in general, these authorized access routes are also available to the public at the time they are permitted. New routes generally serve as connectors from an existing open route to the project boundary. New routes to projects most frequently are identified as Limited Use routes (routes to be used only by the specific authorized users), but if a new route provides through access or crosses open routes, some or all of the route may be made available to the public and/or other users.

Authorizations can also affect the transportation network if the requested land use is incompatible with continued public use of one or more routes. This can occur with land-intensive uses in which a large land area is fenced and made inaccessible to the public. In these cases, the requested land area may include one or more publicly-available routes that would no longer be available. This is a common occurrence with large-acreage sites such as solar power plants. The common practice in these cases is to evaluate the need for access associated with the routes that are being made inaccessible, and to re-route them around the facility is that access is still needed.

A third effect of the authorization of new routes associated with land uses is the potential for proliferation of associated unauthorized routes. For a single-site land use such as a solar facility, the potential for route proliferation is expected to be low because the new route would likely not

be very long, and would likely be located near other major transportation arteries. However, land uses that involve multiple sites in remote areas, such as communications sites or wind turbines, may have a greater potential for route proliferation because they provide new access to remote areas.

3.8.2 Land Uses Within WEMO Planning Area

Within the WEMO Planning area, there are currently approximately 1,705 active rights-of-way (ROW). These land and mining authorizations almost always involve some level of motorized access across public lands. This access occurs at intervals which vary widely, and range from many times per day to less than once a year. The number of active rights-of-way and other authorizations changes frequently as new authorizations are issued and existing ones expire or are terminated.

Utility Corridors

The CDCA Plan, as amended, established a network of sixteen utility planning corridors across the Mojave and Colorado Deserts. All new linear utilities exceeding the following thresholds must be located within a utility corridor:

- New electrical transmission towers and cables of 161 kV (kilovolts) or above;
- All pipelines with diameters greater than 12 inches;
- Coaxial cables for interstate communications; and
- Major aqueducts or canals for interbasin transfers of water.

Seven of these corridors cross the WEMO Planning area: Corridors A, B, BB, C, D, G, and H. Each corridor is between two and five miles wide. The intent of the corridors is to provide a delivery system network that meets public needs in a manner that minimizes the proliferation of widely separated rights of way by encouraging the joint use of corridors for utilities. By locating a project within a corridor, a project proponent does not receive immediate approval to construct a project: a federal right of way grant must still be obtained and a NEPA document prepared.

Utility corridors comprise the most extensive linear network in the planning area, and they generally parallel U.S. highways. Since these utility corridors extend hundreds of miles in length and are two to five miles in width, it is the goal to share access roads within the corridors whenever feasible to minimize route proliferation. These major corridor routes are also routes available to the public, and serve as major arterial access across the planning area. They also may include many side routes to access above-ground or below-ground facilities. As aerial and remote monitoring of facilities increases, the frequency of motorized use on these side-routes is declining. However, many maintenance activities still need to be performed on-site, requiring continued access.

Occasionally the unique needs of a project may require that it be located outside of a corridor. To accommodate these situations, several "contingent" corridors were identified by the CDCA plan that could be activated through a CDCA plan amendment. A project could be located outside of either an activated or contingent corridor, but only through a CDCA plan amendment that examined whether the need for a one-time exemption from the corridor network warranted construction in a non-corridor location. This has happened only once since the CDCA plan was

adopted, for the All American Pipeline in 1983, in a region outside of the western Mojave Desert.

In general, the utility corridors established in the CDCA Plan already contained transmission lines and pipelines at the time of their designation as corridors. Therefore, the corridors also contained a network of parallel access roads to support maintenance and operations of these facilities. In many cases, newly proposed facilities within these corridors can be constructed and operated without the need for additional routes. Each route within the corridors must be evaluated, based on its authorized use, potential resource impacts, and other access needs, to determine if it can be made accessible to the public in addition to the authorized users.

Access for Private Landowners

Private land owners may also receive authorization to utilize routes on public land to access their property. Private landowners are guaranteed access to their lands. The location and manner of that access is a discretionary action if it involves a new or upgraded road, and private landowners may request easement for this additional access. However, BLM policy does not require permitted access by private landowners. Although some federal lands do have such requirements, the CDCA Plan has not adopted such a policy. Due to the amount and distribution of private land in the planning area, most private landowners do not possess authorizations for use of access routes to their land; therefore access to private lands is generally a consideration of providing public access.

Renewable Energy Facilities

Renewable energy includes solar power, wind, and biomass resources. As demand has increased for clean and viable energy to power the nation, consideration of renewable energy sources available on public lands has come to the forefront of land management planning. The West Mojave region contains the natural resources to support the development of alternative energy sources such as wind, geothermal and solar facilities, and there will likely be future proposals for the development of these resources as energy demands increase.

Each existing and proposed renewable energy facility interacts with the designated travel network, but the interaction is different depending on the type of facility. The facilities have in common a need for access roads to the power generation site, electrical substations and switchyards, and transmission system. However, the configuration of the power generation facilities affects the number and configuration of roads needed to support each facility.

For solar power plants that occupy a single site, a single access road may be sufficient to support construction and operation of the facility. Ease of access to local highways and existing transmission systems is generally a factor in site selection by the applicants, so the number and length of necessary access roads, including newly constructed roads, is relatively low. However, the facilities also occupy very large land areas of several thousand acres. By the nature of the facilities, the land area must be completely fenced and public access excluded from this large area. In almost all cases, motorized, non-motorized, and non-mechanized routes already exist within the project area, and public access to those routes must be eliminated. This closure, in turn, may affect the public's use of the routes for recreation or access to other recreation areas, or the use of the route by an authorized user to access their permitted facilities. In general, the environmental analysis of each solar facility includes an evaluation of the impact of the project

on existing routes, and commonly includes a requirement that roads or trails be re-routed, if necessary, to ensure continued access for the public and authorized users.

Wind power facilities have a different effect on routes than solar facilities. Instead of being concentrated in a single, large land area, the power generation facilities exist as hundreds or, in some cases, thousands of individual small turbines. Due to the small footprint of the individual turbines, wind generation facilities do not have a long-term impact on use of routes by the public or authorized users. However, because the applicant must have long-term access to each individual turbine for construction and maintenance, the number and length of routes necessary to support the facility is relatively high. In almost all cases, facility construction requires new roads covering a large area. Also, wind turbines need to be located in higher elevations. By needing to access higher elevations, these routes tend to cross areas with steep slopes, presenting the potential for increased erosion. These mountain slope areas also tend to be the locations of springs, presenting the potential to impact riparian resources, unusual plant assemblages, water quality, and biological resources associated with these areas. Finally, the higher elevation areas are commonly attractive for recreational uses such as hiking, camping, rock hounding, and wildlife viewing. By adding lengthy new routes in high elevation areas, wind turbine facilities present the potential for increasing the proliferation of unauthorized routes in these sensitive areas. Evaluation of wind power applications, therefore, requires consideration of resource impacts across the entire facility route network, including decisions such as the types of impacts that may occur, whether new routes are to also be available to the public or other users, and how to ensure that construction of new routes does not lead to proliferation of unauthorized routes.

Table 3.8-1 lists the renewable energy projects which have been approved or are currently being evaluated in the area.

Table 3.8-1. Renewable Energy Projects

Project	Type	Field Office	Size (MW)	Acreage	Status
Calico	Solar	Barstow	663	4,604	Approved, project subsequently relinquished
Soda Mountain	Solar	Barstow	350	4,397	Proposed
Abengoa Mojave	Solar on private land, transmission on public land	Barstow	250	154	Approved
Alta East	Wind	Ridgecrest	300	2,592	Proposed
Tylerhorse	Wind	Ridgecrest	60	1,100	Proposed
Haiwee	Geothermal	Ridgecrest	NA	NA	Proposed
Barren Ridge	Transmission	Ridgecrest	NA	NA	Approved

(1) Current evaluation is for general leasing decision, not specific projects.

Non Renewable Energy

The majority of the natural gas fueled power plants within the study area are cogeneration facilities, the one exception being the Coolwater facility east of Barstow. In May of 2000, the California Energy Commission granted approval to the High Desert Power Plant Project, a new natural gas fueled 750 MW facility. This facility is proposed to be located on a 25-acre site of the

Southern California International Airport, formerly George Air Force Base, in the city of Victorville.

Non-renewable energy facilities tend to occupy a single, small-scale site near existing roads, and thus do not require construction of or access to an extensive route network. These facilities are generally supported by a single access road into the facility, and access roads adjacent to supporting pipelines and transmission lines.

Communication Sites

The WEMO Planning area also supports a large number of communications sites operated by leaseholders. In general, these facilities are similar to wind turbines in that they occupy a small land area that is unlikely to interfere with use of nearby routes by the public or other authorized users. However, they also tend to be sited in distal locations, at high elevations, thus requiring a lengthy access road for construction and maintenance. The impacts associated with these routes at higher elevations would be similar to those for wind turbines, including increased potential for erosion on steep slopes, presence of riparian and other sensitive resources, and the potential for proliferation of unauthorized routes for recreation purposes.

Mine and Mineral Claim Access

Most of the Limited Access areas within the WEMO Planning area are available for mining and mineral exploration. Provision of access to these resource values is a key component of the transportation network. Access for exploration and development of minerals is granted under several authorizations, depending on the scope of activities and the type of minerals being mined. Mineral management programs in BLM include fluid minerals (oil, gas, and geothermal) and solid minerals (locatable, leasable, and salable). Fluid minerals are exclusively leasable; however, some solid minerals are also leasable such as phosphate and salt deposits that contain sodium or potassium. Calcium and carbonate salts are leasable or locatable, depending on their uses. The remaining solid minerals are generally locatable or salable. Locatable solid minerals are those such as metals and gypsum. Salable minerals are those such as common varieties of sand and gravel, clay, and rock. The BLM manages oil and gas leases under Title 43 CFR, Part 3100, and geophysical exploration is covered under Part 3150. Geothermal leasing is managed under Part 3200, mineral materials under Part 3600 regulations, mining claims for locatable minerals under Part 3800 regulations, and solid leasable minerals, other than coal or oil shale, under Part 3500.

As with other land-use authorizations, whenever appropriate, the designated route network is used for motorized access. Frequently additional access is required to reach the sites of minerals. Less frequently, restrictions are placed on the use of these access routes for safety and/or security reasons, in order to protect discoveries. Generally, mining activities are of a small scale and do not affect the continuity of the overall network. However, the major salt mining operations on Searles Dry Lake do provide constraints on through-area access by other users.

Locatable minerals, which include metallic and more precious or unique commodities, are located on public lands, and can be potentially patented to mining interests based on discovery and evaluation. Access for locatable minerals is provided under the 1872 Mining Law and implementing regulations in 43CFR3809, and is non-discretionary. BLM retains authority over the appropriate manner and specific location of access routes. There are currently 5 active mines

within the WEMO Planning area. In addition, there are more than 3,000 active lode, placer, and millsite claims, most of which require a plan of operation in the WEMO Planning area.

Each mine and claim requires use of the transportation network for access. An approved plan is required for most surface disturbance in the WEMO Planning area associated with mining or exploration activity greater than one acre. Access to these active mines and claims is included in a plan of operations submitted to BLM for review and approval. In addition, some mines outside of the planning area may require use of the planning area's transportation network for access. Notice-level operations are smaller exploratory activities causing surface disturbance. In more sensitive areas, a notice is appropriate up to one-acre, unless otherwise further restricted in the land-use or activity plan. In less sensitive areas, a notice may be appropriate for operations up to 5 acres in size. The notice must specify access, which BLM reviews and may modify.

Casual use mining exploration, for which an operator need not notify the BLM, pertains to those projects that do not exceed casual use. Many of these claimants do not file a plan or notice, and therefore are not provided motorized access specific to their activity on public lands. Rather, they may use motorized vehicles provided the use is consistent with the regulations governing such uses at 43 CFR 8340 for off-road vehicle use designations contained in BLM land-use plans.

Approval for authorizations for most saleable and leasable minerals is discretionary; therefore providing access to those minerals is also discretionary. If mining is approved, BLM determines the appropriate manner and specific location of access routes, as with locatable minerals. In many cases, technical considerations govern the location of the necessary access route, and the impacts associated with access are considered by BLM, along with the rest of the facility and operation, in determining whether to authorize the facility. As with other routes, BLM may apply minimization requirements, as necessary to avoid or reduce impacts. There are some specific commodities, such as Strategic and Critical Minerals, for which authorization, and therefore access, is not discretionary.

3.9 Cultural Resources

This chapter presents the existing management situation and environmental setting/affected environment for cultural resources in the planning area, which is the scope of the analysis. The following describes the broad category, cultural resources, as well as the subsets historic properties and historical resources.

A cultural resource is an object or definite location of human activity, occupation, use, or significance identifiable through field inventory, historical documentation, or oral evidence. Cultural resources are prehistoric, historic, archaeological, or architectural sites, structures, buildings, places, or objects and locations of traditional cultural or religious importance to specified social and/or culture groups. Cultural resources include the entire spectrum of objects and places, from artifacts to cultural landscapes, without regard to eligibility for inclusion on the National Register of Historic Places (NRHP) or California Register of Historical Resources (CRHR).

Historic Properties are a legally defined subset of cultural resources that are included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior and per the NRHP eligibility criteria at 36 CFR 60.4. Historic Properties may include any prehistoric or historic district, site, building, structure, traditional cultural property, or object. The term also includes properties of traditional religious and cultural importance to a Native American tribe that meets the NRHP criteria. "Eligible for inclusion on the NRHP" refers both to properties formally determined as such in accordance with regulations of the Secretary of the Interior and all other properties that meet the NRHP criteria.

Historical Resources are a legally defined subset of cultural resources that meet the criteria for listing on the CRHR as provided at CCR Title 14, Chapter 11.5, Section 4850. Historical Resources may include, but are not limited to, any object, building, structure, site, area, place, record, or manuscript which that is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

3.9.1 Definition of the APE

The Area of Potential Effects (APE) is defined in 36 CFR Part 800, the implementing regulations of Section 106 of the National Historic Preservation Act, as "[t]he geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." [36 CFR Part 800.16(d)].

The APE for the land-use plan amendment is the West Mojave Planning Area. This takes into account the potential for direct and indirect impacts to physical, visual, and auditory attributes of cultural resources and cultural landscapes, from all decisions allowable as part of the WEMO Plan. This includes the proposed amendments and revisions, grazing use decisions, and the establishment of a travel management framework specific to the Planning Area.

The APE for specific route designations developed as part of the West Mojave Route Network Project is defined as the area formed by the actual routes plus the 300-foot-wide corridor along

each side of open routes that is available for pulling off and parking of vehicles. This encompasses areas near or adjacent to routes that may be subject to effects related to use of the route, such as camping and secondary-vehicle staging. This area forms the basis for the NEPA analysis in this document.

3.9.2 Regulatory Setting

3.9.2.1 Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966 (Public Law [PL] 89-665, 16 United States Code [U.S.C.] 470-1), as amended, generally sets forth as the national policy of the federal government, in cooperation and partnership with the states, local governments, Native American tribes, and private organizations and individuals to (1) use measures, including financial and technical assistance, to foster conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations; (2) administer federally owned, administered, or controlled prehistoric and historic resources in a spirit of stewardship for the inspiration and benefit of present and future generations; (3) contribute to the preservation of non-federal prehistoric and historic resources and give maximum encouragement to organizations and individuals undertaking preservation by private means; and (4) encourage the public and private preservation and utilization of all usable elements of the nation's historic built environment. (16 U.S.C 470-1).

Sections 106 and 110 of the NHPA have specific bearing on federal agency historic preservation activities and the management of historic properties. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on such historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on those undertakings. These regulations require federal agencies to conduct the necessary studies or consultations to identify cultural resources that may be affected by an undertaking, evaluate cultural resources that may affected to determine if they are eligible for the NRHP, and to assess whether such historic properties would be adversely affected. Where historic properties would be adversely affected, the federal agency is required to consult with the State Historic Preservation Officer, Native American tribes that attach religious or cultural significance to historic properties, the Advisory Council on Historic Preservation, and other consulting parties to resolve the effects of the undertaking.

Section 110 of the NHPA (16 U.S.C. 470h-2) generally provides that all federal agencies assume responsibility for the preservation of historic properties that are owned or controlled by such agency. Under this section, federal agencies must establish a preservation program for the identification, evaluation, and nomination to the NRHP, and for protection of historic properties. The agency's preservation program shall ensure:

A. That historic properties under the jurisdiction or control of the agency are identified, evaluated, and nominated to the National Register.

B. That such properties under the jurisdiction or control of the agency as are listed in or may be eligible for the National Register are managed and maintained in a way that considers the preservation of their historic, archaeological, architectural, and cultural values in

compliance with Section 106 and gives special consideration to the preservation of such values in the case of properties designated as having national significance.

C. That the preservation of properties not under the jurisdiction or control of the agency, but subject to be potentially affected by agency actions, are given full consideration in planning.

D. That the agency's preservation-related activities are carried out in consultation with other federal, state, and local agencies, Indian tribes, Native Hawaiian organizations carrying out historic preservation planning activities, and with the private sector.

E. That the agency's procedures for compliance with Section 106 of this Act

i. are consistent with regulations issued by the Council pursuant to this Act.

ii. Provide a process for the identification and evaluation of historic properties for listing in the National Register and the development and implementation of agreements, in consultation with State Historic Preservation Officers, local governments, Indian tribes, Native Hawaiian organizations, and the interested public, as appropriate, regarding the means by which adverse effects on such properties will be considered

iii. Provide for the disposition of Native American cultural items from federal or tribal land in a manner consistent with section 3(c) of the Native American Grave Protection and Repatriation Act" (25 U.S.C. 3002[c]) (16 U.S.C 470h-2(a)).

National Register of Historic Places

The NRHP is the official list of the nation's historic places worthy of preservation. Authorized by the NHPA, the NRHP is part of the national program to identify, evaluate, and protect America's historic and archaeological resources. Cultural resources listed or eligible for listing on the NRHP are called historic properties.

Eligibility for inclusion in the NRHP is specified in regulations at 36 CFR 60.4 and is based on the following:

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association; and:

A. That are associated with events that have made a significant contribution to the road patterns of our history; or

B. That are associated with the lives of persons significant in our past; or

C. That embody the distinctive characteristics of a type, period, or method of construction, or representation of the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history.

An NRHP-eligible site must meet one or more of the above criteria and have integrity appropriate to the criteria. In most cases, archaeological sites typically qualify under Criterion D; non-archaeological properties often qualify for listing under Criterion A, B, or C. Integrity varies

in terms of the criterion under which the site is evaluated. For example, an archaeological site evaluated under Criterion D would need to have the potential to provide meaningful scientific research data that is important to prehistory or history. If the site has been disturbed or damaged to the extent it cannot do this, it would lack integrity. Historic buildings, on the other hand, typically need to be in their original location and be relatively unmodified or restorable to have integrity under Criterion A, B, or C. Historic buildings and structures must also evoke the historic period of significance to a layperson. None of the four criteria are mutually exclusive. It is not uncommon for a historic structure to have a related archaeological component.

Under special consideration, some cultural resources not otherwise eligible may be considered eligible. These include religious properties, moved properties, birthplaces and graves, cemeteries, reconstructed properties, commemorative properties, and properties less than 50 years old.

National Environmental Policy Act, as amended

NEPA (42 U.S.C. §§ 4321–4370c.) provides the statutory basis for considering impacts on the cultural environment as a whole, as well as cultural resources that are not historic properties. NEPA places the responsibility on the federal government to "preserve important historic, cultural, and natural aspects of our national heritage, and maintain, whenever possible, an environment [that] supports diversity and a variety of individual choice" (42 U.S.C. § 4331[b][4]). NEPA requires federal agencies to conduct an interdisciplinary analysis of the environmental consequences of their actions early in the decision-making process. For cultural resources, this analysis considers the effects of agency actions on physical features such as archaeological sites, buildings, and structures, as well as the practice of religious and other traditional lifeways that reflect community heritage. Implementing regulations are found in 40 CFR §§ 1500–1508, 36 CFR § 800.8, and 32 CFR § Part 775.

Federal Land Policy and Management Act of 1976

The FLPMA (P.L. 94-579; 43 U.S.C. §§ 1701 et seq.) mandates that public lands be managed in a manner that will protect the quality of scientific, scenic, historic, ecological, environmental, air and atmospheric, water resource, and archeological values. Title VI of the FLPMA establishes the California Desert Conservation Area. BLM, under the Secretary of the Interior, is the implementing agency for FLPMA. However, under 43 U.S.C. § 1781.h, the Secretary of Agriculture and Secretary of the Defense manage public lands that fall within their respective jurisdictions if the lands are located within or adjacent to a California Desert Conservation Area. Permits authorizing the collection of fossils for scientific purposes are issued under FLPMA.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act (as implemented by 43 CFR 7) was enacted to protect archaeological resources on public lands and Indian lands and to acknowledge that archaeological resources are an irreplaceable part of America's heritage. The Archaeological Resources Protection Act applies when a project may involve archaeological resources located on federal or tribal land. The Archaeological Resources Protection Act requires that a permit be obtained before excavation of an archaeological resource on such land can take place and that artifacts recovered during excavation are curated at an appropriate facility. Section 7.8 of 43 CFR 7 includes professional qualification standards for archaeologists conducting work under

the permit covered by this act. The act also provides for the notification of Indian tribes when sites of cultural or religious importance could be harmed. In addition, it details descriptions of prohibited activities and financial and incarceration penalties for convicted violators. It provides authority to federal officials to better manage archaeological sites on public land (16 U.S.C. 470aa-470mm).

Antiquities Act; Title 16, U.S.C. Section 431-433

This act authorizes the president to designate as national monuments objects or areas of historic or scientific interest on lands owned or controlled by the United States. The act required that a permit be obtained for examination of ruins, excavation of archaeological sites, and the gathering of objects of antiquity on lands under the jurisdiction of the Secretaries of Interior, Agriculture, and Army, and provided penalties for violations.

Preserve America, Executive Order 13287

Agencies shall provide leadership in preserving America's heritage by actively advancing the protection, enhancement, and contemporary use of the historic properties owned by the federal government. Each agency is to provide and maintain an assessment of the status of its inventory of historic properties and their ability to contribute to community economic development initiatives.

Where consistent with its mission and governing authorities, and where appropriate, agencies shall seek partnerships with state and local governments, Native American tribes, and the private sector to (1) promote the unique cultural heritage of communities and of the nation and to realize the economic benefit that these properties can provide, and (2) cooperate with communities to increase opportunities for public benefit from, and access to, federally owned historic properties.

Indian Sacred Sites, Executive Order 13007

In managing federal lands, agencies shall, to the extent practicable, permitted by law, and not inconsistent with agency functions, accommodate Indian religious practitioners' access to and ceremonial use of Indian sacred sites. Agencies are to avoid adversely affecting the physical integrity of these sites, maintaining the confidentiality of such sites, and informing tribes of any proposed actions that could restrict access to, ceremonial use of, or adversely affect the physical integrity of, sacred sites.

Consultation and Coordination with Indian Tribal Governments, Executive Order 13175

In formulating or implementing policies that have tribal implications, agencies shall respect Indian tribal self-government and sovereignty, honor tribal treaty and other rights, and strive to meet the responsibilities that arise from the unique legal relationship between the federal government and Indian tribal governments. The Executive Memorandum of April 29, 1994, outlines the principles that agencies are to follow in their interactions with Native American tribal governments.

The Timbisha Shoshone Tribal Homeland Act of 2000 designated a 640-acre parcel within the northern portion of the planning area (Darwin Subregion) as trust land for the Timbisha-Shoshone Tribe (Whitley 2000, Caton 2009).

American Indian Religious Freedom Act, 42 U.S.C. 1996

This act recognizes that freedom of religion for all people is an inherent right and that traditional American Indian religions are an indispensable and irreplaceable part of Indian life. Establishing federal policy to protect and preserve the inherent right of religious freedom for Native Americans, this act requires federal agencies to evaluate their actions and policies to determine if changes should be made to protect and preserve the religious cultural rights and practices of Native Americans. Such evaluations are made in consultation with native traditional religious leaders.

Native American Graves Protection and Repatriation Act, 25 USC 3001-13

This act establishes requirements for the treatment of Native American human remains, and associated funerary objects, and objects of cultural patrimony on federal land. The implementing regulations for this act are found at 43 CFR 10. In the event of an inadvertent discovery of human remains and/or associated funerary objects, work shall stop in the immediate area and be protected. The federal agency is required to notify and consult with tribes that are, or likely to be, culturally affiliated with the remains and/or associated funerary objects. Upon request, each agency is required to return any such item to any lineal descendant or specific tribe with whom such item is associated.

CDCA Plan Cultural Resources Element

The general goals of the California Desert Conservation Area (CDCA) Plan Cultural Resources Element are to:

1. Broaden the archaeological and historical knowledge of the CDCA through inventory efforts and the use of the existing data. Continue the effort to identify the full array of the CDCA's cultural resources.
2. Preserve and protect representative sample of the full array of the CDCA's cultural resources.
3. Ensure that cultural resources are given full consideration in land use planning and management decisions, and ensure that BLM authorized actions do not result in inadvertent impacts.
4. Ensure proper data recovery of significant (NRHP quality) cultural resources where adverse impacts cannot be avoided.

These goals have not been modified in the West Mojave Plan.

3.9.2.2 State

Historical resources are afforded consideration and protection by CEQA and PRC Section 5024.1. The CRHR was established by California PRC Section 5024, which requires state agencies to identify and protect state-owned resources that meet CRHR listing criteria. These criteria are consistent with the NRHP criteria, but have been modified for the state use to include a range of historical resources that better reflect the history of California. A resource is considered historically significant or a historical resource if it meets one of the following criteria for listing on the CRHR:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.
2. Associated with the lives of persons important to local, California, or national history.
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

3.9.3 Background

3.9.3.1 Regional Overview

The evaluation of potential cultural resources in accordance with the criteria established by the federal and state legislation and regulations described earlier is made with reference to a historic context. The context is defined as "the patterns or trends by which a specific occurrence, property, or site is understood and its meaning (and ultimately its significance) within history or prehistory is made clear" (National Park Service 1995). A general context for the consideration of cultural resources within the West Mojave Area is presented below.

Prehistory

The prehistory of the West Mojave Area spans four general temporal periods: Late Pleistocene and Early, Middle, and Late Holocene. In light of the many cultural sequences, the temporal periods are described below.

Late Pleistocene (20,000-10,000 BP)

Despite some claims for very early human occupation within the Planning Area (Davis et al. 1980), the earliest well-documented evidence is found in the form of the distinctive fluted Clovis-style projectile points that have been found at scattered locations throughout the region (Rondeau et al. 2007). Because these points are typically found on the surface and are not associated with radiocarbon assays, the dating of these early occupations remains problematic. However, Olivella beads from several sites within the Planning Area, including the Stahl Site in Inyo County, one site in Riverside County, and four sites in San Bernardino County (Goldstone, Awl Site, Rodgers Ridge, and Flood Pond), have yielded radiocarbon dates within the Late Pleistocene range. These sites were located adjacent to lakes or marshes and often contain a variety of artifact forms such as scraping tools, leaf-shaped bifaces, and associated debitage (i.e., prehistoric debris) (Erlandson et al. 2007; Fitzgerald et al. 2005). Based on the relatively high frequency of points and scrapers, these early groups have traditionally been seen as mobile big-game hunters; however, recent studies suggest that their economies were more diverse and focused on smaller animals and plant foods, and that large game played a minor role (Erlandson et al. 2007). They are believed to have lived in small populations in temporary camps located near permanent water sources (Sutton et al. 2007).

Early Holocene (10,000-7,500 BP)

In general, the transition from the terminal Wisconsin to the Early Holocene within the Mojave Desert was characterized by somewhat warmer and increasingly drier conditions. Pluvial lakes,

while still present in the region, were generally retreating and had dried completely by around 8,000 years ago. Human use of the desert is manifested by the Lake Mojave Complex, which occurred between approximately 10,000 and 8,000 years ago, and is characterized by projectile points of the Great Basin stemmed series and abundant bifaces, steep-edged unifaces, crescents, and occasional cobble-core tools and ground stone implements. Sites attributed to the Lake Mojave Complex have usually been found only as surface deposits and lack materials suitable for dating. However, some radiocarbon dates have been obtained for sites at Lake Mojave, Fort Irwin, Twentynine Palms, Rosamond Lake, and China Lake (Sutton et al. 2007). These sites are frequently found on the shorelines of pluvial lakes. Site types include residential bases, lithic workshops, and small camps. Settlement patterns are seen as highly mobile, with small social units visiting resource patches on seasonal rounds. Faunal remains have been found in limited quantities at Lake Mojave sites, but evidence from excavations at Fort Irwin suggest hunting focused on small game, reptiles, and rodents (Sutton et al. 2007).

Middle Holocene (7,500 to 4,000 BP)

During the first part of the Middle Holocene, a drier climate resulted in sporadic and relatively short-duration appearance of shallow desert lakes. Researchers have posited that during this period settlement within the Mojave Desert focused on upland contexts, along remnant pluvial lake basins and channels, and at spring/seep locations. During the early part of the Middle Holocene, the Pinto Complex (7,000 to 4,000 BP) appeared in the area encompassed by the Planning Area. Radiocarbon data from some sites in the Mojave Desert suggest that there was an overlap between the Lake Mojave and Pinto complexes and that the Pinto Complex may have begun in the Early Holocene (Sutton et al. 2007). The artifact assemblage includes Pinto points, leaf-shaped points and knives, drills, heavy-keeled scrapers, retouched flakes, choppers, hammerstones, and shell beads. Manos and flat milling stones appear in abundance for the first time in the Mojave Desert. Based on this high abundance of milling tools, intensive plant exploitation was one of the inhabitants' subsistence strategies and access to plant resources must have been an important factor in determining site placement (Sutton et al. 2007). Groups most likely consisted of multiple families living in centralized sites logistically close to locations used to gather resources (Sutton et al. 2007).

Sutton et al. (2007) propose that the Deadman Lake Complex may be somewhat distinct from the Pinto Complex. To date, the Deadman Lake Complex has been identified in the Twentynine Palms area only. The assemblage has small- to medium-size contracting stemmed points, an abundance of battered cobbles and core tools, bifaces, simple flake tools, milling tools, and shell beads from the Pacific Ocean and the Sea of Cortez. The artifacts are similar to Pinto Complex artifacts, but use the local igneous materials. Sutton et al. (2007) note also that it is possible the Deadman Lake Complex reflects a localized version of the Pinto Complex in which the sites are located at higher elevations and thus have access to different resources than those of the Pinto Complex in remnant pluvial lake basins.

Late Holocene (after 4,000 BP)

Following an approximate 1,000-year period of reduced occupation in the Mojave Desert (Sutton et al. 2007), the Gypsum Complex (approximately 4,000 BP and 2000 BP) emerged amid the somewhat wetter and cooler climatic conditions of the Late Holocene. The artifact assemblage characteristic of Gypsum sites consists of Elko, Humboldt, and Gypsum Cave points; triangular

knives; large points with straight bases and shoulders; hammerstones; choppers; flake-based scrapers; scraper-planes; large drills with expanding bases; stone pendants; limited shell beads; millingstones; manos; mortars; and pestles (Warren 1984). Faunal remains from Gypsum sites indicate hunting focused on artiodactyls, lagomorphs, and rodents (Sutton et al. 2007).

Prehistoric sites and features with diagnostic elements indicate use of the Darwin area from at least the Newberry Period (ca. 4,000 -1,350 BP) through contact, though the potential for evidence of earlier occupation exists in several sites where subsurface deposits have been identified and remain undisturbed.

In Owens Valley and the eastern Sierra, the period between 2000 BP and 1500 BP (the Newberry Period in regional chronologies) is characterized by highly mobile groups, caches of Elko and Humboldt Basal notched points, bifaces, and milling equipment (Eerkens and Spurling 2008; Faull 2007). Sites dating to the latter part of this period are typically base camps with structures and lithic reduction sites. Obsidian quarrying reached its peak during this period (Eerkens and Spurling 2008). Sites occur more in the Volcanic Tablelands and northern Owens Valley than in the southern Owens Valley area (Poulson 2009).

The Late Holocene from about 1500 BP to the time of the historic era is viewed by most archaeologists as the extension of the ethnographic present. A series of dry and wet episodes characterize the climate during this period (Larsen and Michaelsen 1989; Sutton 1996, Weide et al. 1974). Lakes in the Mojave Desert started to dry up and site locations are centered near ephemeral water sources during the latter part of this period.

The Rose Springs Complex during the latter part of the Late Holocene (1500 to 1000 BP) marked the beginning of the bow-and-arrow technology in the Mojave Desert. These sites have well-developed middens and a variety of material culture including Eastgate and Rose Spring projectile points, stone knives, drills, pipes, bone awls, milling tools, marine shell artifacts, and large quantities of obsidian (Sutton et al. 2007). The sites are found near springs (Saratoga, Rose) along washes and sometimes along lakeshores (Rogers/Rosamond and Koehn lakes). Evidence of wickiups and pit houses has been found in two sites in the western Mojave Desert (Sutton et al. 2007).

In the Owens Valley, sites dating to 1500-600 BP (identified in regional chronologies as the Haiwee Period) show evidence of more sedentary groups with semi-subterranean houses. The bow and arrow (Rose Spring and Eastgate points), and storage pits are introduced, and artifact caching mostly disappears (Faull 2007). Production at obsidian quarries drops off (Eerkens and Spurling 2008). The band-like structure is replaced by the household as the primary socioeconomic unit (Poulson 2009). Subsequently, (600 BP to contact, Marana Period Cottonwood and Desert Side-notched points and Owens Valley Brown ware (a coil and scrape type of construction) are introduced and there is an increase in ground stone tools as the harvesting of green pinyon nuts becomes a subsistence focus (Bettinger 1989; Eerkens and Spurling 2008).

Protohistory and Ethnographic Context

To evaluate cultural development, archaeological explanations need to be expanded. The similarities between the Late Holocene period and the ethnographically recorded occupation of the area have resulted in an extrapolation from the ethnographic present to Late Holocene patterns. While this has its difficulties, certain types of ethnographic information can be

employed in the evaluation of the archaeological record. Perhaps the most valuable is the linguistic structure of the area.

The use of linguistic evidence for prehistory is more tenuous than the more substantial cultural material record but it can provide important insight. If the archaeological record and linguistic evidence both reflect actual activities, the reconstruction proposed by one field should be substantiated by the other. When an area undergoes an intensive linguistic change (as from one stock to another), it may also undergo a corresponding change in the material remains left by the people involved. If two groups are in extended contact, their nonlinguistic elements can be assimilated while their language may remain relatively distinct (Bright and Bright 1965).

One of the most important questions that needs to be addressed and that requires consideration of ethnographic and linguistic information is the development of the location of the native populations at the time of contact. Where did they come from, and when did they arrive?

The major linguistic division within the Planning Area is the Uto-Aztecan stock, which includes the Numic and Takic subfamilies. Speakers of languages derived from the Numic branch of the Uto-Aztecan language group include the Kawaiisu, Southern Paiute, Western Shoshone, and Owens Valley Paiute; the speakers of the languages derived from the Takic branch include the Cupeño, Kitanemuk, Serrano, and Cahuilla (Warren 1984).

Evidence for population movements and the location of these groups at contact have been evaluated based on diagnostic artifacts, projectile points, milling technology and ceramics, burial patterns, and specialty items such as crescentics and beads.

Numic/Takic Language Subfamilies (Mojave Desert/Western Great Basin)

Golla (2007) proposes the development of the Numic and Takic languages in California as dating from about 2000 years ago, and that the Numic languages developed somewhat more recent between 1500 and 2000 years ago. Bettinger and Baumhof (1982) estimate a time depth for the split between the Numic dialects beginning around 800 years ago.

In most explanations, the expansion of the Uto-Aztecan languages within the Mojave Desert and Western Great Basin show similar time depths to the Yuman languages in the Colorado Desert. As with the Yuman languages, expansion toward the coast either filled a void or replaced an existing population. Early explanations described the "Uto-Aztecan wedge" based principally on the assumption of a broad Hokan dispersed language group and the position of the Uto-Aztecan languages relative to the Salinan and Yuman languages. This explanation is challenged by both the proposed timeline for their development and the archaeological record.

As noted earlier, the four tribes that speak languages from the Numic branch are the Kawaiisu, Southern Paiute (Chemehuevi), Western Shoshone, and Owens Valley Paiute, and the four tribes that speak languages from the Takic branch include the Cupeño, Kitanemuk, Serrano, and Cahuilla. As stated above, to understand what remnants may have been left behind by these tribes, it is important to know where their traditional territories are located. The following is a description of lands traditionally occupied by each tribe.

The Kawaiisu occupied the southern end of the Sierra Nevada watershed by the Piute and Tehachapi mountains at the line between the Great Basin and California cultures. The habitat was in the mountainous ridge between the Mojave Desert and the San Joaquin Valley. One source suggests that there were Mountain Kawaiisu who lived in the Piute and Tehachapi

mountains and Desert Kawaiisu who lived east of Tehachapi into southern Death and Panamint valleys where they sometimes lived with Shoshone (Garfinkel and Williams 2009).

The Chemehuevi are considered a subgroup of the larger Southern Paiute group. The Chemehuevi occupied territory west of and along the Colorado River, south of Needles into eastern Mojave Desert as far east as Providence Mountains (Kroeber 1925; Kelly and Fowler 1986). In 1776, there were no Chemehuevi along the Colorado River; however, they moved into the Chemehuevi Valley after the Halchidoma were forced to move east with the Maricopa. After 1876, they moved back to the remote desert when war broke out with the Mojave (Kroeber 1925).

The Western Shoshone occupied a region that included Death Valley through the highlands of central Nevada into northwestern Utah, Skull, Deep Creek, Panamint, and Saline valleys (Thomas et al. 1986, Norwood et al. 1980).

The Owens Valley Paiute occupied a narrow valley along the Owens River on the eastern side of the southeastern Sierra Nevada and extends north to Benton, California, and east to Fish Lake Valley, Nevada (Liljeblad and Fowler 1986; Norwood et al. 1980; Steward 1934).

The Cupeño were a small group of about 500 to 750 who occupied an area approximately 10 miles in diameter south of the San Luis Rey River and centered on the area now known as Warner Springs within the valley of San Jose de Valle (Bean and Smith 1978b; Kroeber 1925).

The Kitanemuk lived in the Tehachapi Mountains at the southern end of the San Joaquin Valley with Antelope Valley being their southern boundary (Kroeber 1925; Blackburn and Bean 1978).

The Serrano territory generally encompassed the San Bernardino Mountains east of Cajon Pass, east to Twentynine Palms and south to Yucaipa Valley (Bean and Smith 1978a).

The Cahuilla occupied mountains, passes, canyons, valleys, and desert from the Colorado Desert north of the Chocolate Mountains and across to Borrego Springs, westerly along Palomar Mountain, northerly to the Santa Ana River near Riverside, then easterly along the San Bernardino Mountains to Orocopia Mountain, and encompassing the San Jacinto and Santa Rosa mountain ranges (Bean 1978).

Cultural Characteristics for Numic and Takic Language Speakers

Cultural characteristics similar for Numic and Takic language speakers in the Mojave Desert include diagnostic point types and coil and scrape pottery or paddle and anvil pottery (Bean 1978; Bean and Smith 1978a; Thomas et al, 1986). There are four point types that may be associated with contact populations in the Numic/Takic language area: Rose Spring, Eastgate, Cottonwood and Desert Side Notched. These tribes also traditionally cremated their dead with the exception of the Kitanemuk and Kawaiisu (Strong 1929, Blackburn and Bean 1978; Zigmond 1986; Kelly and Fowler 1986, Garfinkel and Williams 2009). The Western Shoshone and Owens Valley Paiute practiced both cremations and burials (Busby et al. 1979; Thomas et al. 1986). The Cahuilla and Southern Paiute (Chemehuevi) also were agriculturalists and the Owens Valley Paiute practiced a specialized irrigation system to grow crops (Bean 1978, Busby et al. 1979, Kelly and Fowler 1986; Steward 1933). Sutton et al. (2007) suggest a geographic difference for artifact types. They note that the northern Mojave Desert or the Numic language areas have a combination of Desert Side Notched and Cottonwood triangular points, brown ware pottery, some buff ware pottery near the Mojave River, and primarily Coso obsidian artifacts.

The eastern portion of the Mojave Desert also representing Takic language areas have only Cottonwood triangular points, brown and buff ware pottery, and local obsidian artifacts. The Mojave River appears to have been a boundary between the Takic and Numic speakers (Sutton et al. 2007).

Historic Period

Initial Exploration by Europeans

The term historic period generally is defined as the period after initial contact between Native American groups and European explorers/settlers, when written sources about the area become available. An arbitrary date for the beginning of the historic period for California would be 1540, with the expedition of Spanish explorer Hernando de Alarcon. Alarcon's expedition brought the first Europeans to the Planning Area. The expedition sailed up the Colorado River as far as the confluence of the Colorado and Gila Rivers (Woznicki 1968). In the same year Melclor Diaz led an expedition by foot up to the confluence of the Colorado and Gila rivers. In 1700, Father Eustebio Francisco Kino traveled from Sonora, Mexico, to the Yuma area, and for the next few years Spanish priests and missionaries moved up and down the Colorado and Gila rivers visiting the tribes.

Exploration into central and northern portions of the Planning Area was slower and more intermittent. In 1772 Pedro Fages, a Spanish army officer and commander of California's Spanish force, crossed into the Planning Area while following a band of runaways from the presidio at San Diego (Greene 1983). His chase appears to have led him through the San Bernardino Valley, over to the high desert near Cajon Pass, and into the Mojave Desert before proceeding on to the south end of San Joaquin Valley and then on to Monterey (Greene 1983). Juan Maria de Rivera explored the southern portions of Colorado and Utah in 1765 during an expedition to find routes west from Santa Fe, New Mexico. In 1776, an expedition by Franciscan missionaries Francisco Atanasio Dominguez and Silvestre Velez de Escalante left Santa Fe, New Mexico, looking for a route to the California coast. They did not reach the coast, but did explore portions of the Great Basin before turning back (Malouf and Findlay 1986).

Trails, Trading Routes, and Transportation

The first Spanish period trails in the Planning Area were pioneered by the de Anza Expeditions in 1774-1775 and 1775-1776. Mexico gained its independence from Spain in 1821, but travel in the Planning Area was still limited. Travel on the existing trails in the area increased after restrictions against private traders were lifted (Malouf and Findlay 1986). American trappers and traders began working the northern portion of the Planning Area in increasing numbers in the early 1800s, including groups led by Jedediah Smith in 1826-1827 and Peter Ogden in 1829-1830 (Malouf and Findlay 1986). Both these groups came into California in the region of Needles and moved west through the Mojave Desert, using the Mojave Indian Trail, and then north into the San Joaquin Valley (Malouf and Findlay 1986).

A primary route for the growing trade was the Old Spanish Trail, pioneered by Antonio Armigo in 1829. The Old Spanish Trail began in Santa Fe, New Mexico, and ended at the Pacific Ocean at the Pueblo of Los Angeles. Armigo's route included portions of the routes blazed by de Rivera, Dominguez and de Escalante, and Jedediah Smith. The portion of the trail route within

the Planning Area followed the Mojave River west past what is now Barstow, then southwest through the Cajon Pass to Mission San Gabriel and on to Los Angeles.

The Old Spanish Trail became increasingly important to trade in the 1830s, being used by many American trappers and traders. The Mojave River Valley was also a popular route for horse and cattle thieves and Native American slave traders bound for the established settlements in New Mexico. The trail was designated in 2002 as a National Historic Trail.

The Southern Pacific Railroad constructed a railroad line from Mojave to Needles, on the Colorado River, between 1882 and 1883, which increased the exploitation of the regions' mineral resources (Hector 1987). The town of Barstow, originally named Waterman, was founded in 1886 as a town for railroad workers. The establishment of a main transfer station at Yermo, 10 miles from Barstow, resulted in significant growth in Barstow itself (Hector 1987).

The completion of the San Pedro, Los Angeles, and Salt Lake Railway line from Salt Lake City, Utah, to Barstow in May of 1905 further increased the town's importance. Much of the route ran through only sparsely inhabited areas in the Planning Area, Barstow being the only town of any size. Although not a large town, Kelso, on the line east of Barstow, was a major staging stop for the railroad.

Numerous small railroads were constructed in the Planning Area for the express purpose of servicing mining operations. The Borate and Daggett Railroad, constructed in 1898, was used to haul borate the dozen miles from the mines at Borate to the Southern Pacific line at Daggett (Ross 2002). Many Navajo Native Americans worked on the construction of the line. The Borate and Daggett ran for nine years, carrying mail and passengers in addition to its main cargo of borate (Ross 2002).

When the railroad route from Barstow to Needles was constructed, a dirt road was also established adjacent to the tracks (Hatheway 2001). This road was most likely built as part of the construction of the railroad, but was soon used for wagon transportation. Through the rest of the 1800s and into the first decade of the 1900s, the road was only lightly used, since the train provided a much more cost-effective way of transporting people and goods through the area. After the turn of the century, however, the rise of the automobile made the road a potential route from Nevada to the west coast. The County of San Bernardino improved the existing dirt road in 1911 (Hatheway 2001), possibly to entice the State of California to adopt the route as a highway. Plans were being formed for a highway connecting the east coast and west coast, and the Needles to Barstow to Los Angeles route was one of the main considered alignments.

Mining

Mining has been a recurring and significant factor in the development of the Planning Area. By the early 1850s, gold deposits had been discovered in San Bernardino County around Leach Lake and Lytle Creek (Greene 1983.) In the early 1860s, gold was discovered in the Picacho Peak area north of Blythe and in the Bear and Holcomb Valleys in the San Bernardino Mountains. In the 1870s, gold mining began in earnest in both the northern and southern portions of the planning area. Silver and gold deposits were identified in Darwin in 1874, prompting a mining boom that, at its peak in 1876, included a population of 1000 miners, families, and immigrant workers, 20 mines, 200 buildings, 2 smelters and an extension route for the Cerro Gordo Freighting Company with regular service to the ports of Los Angeles. Further south in the same timeframe, mining began in the Little San Bernardino and Eagle Mountains near

Twentynine Palms and Joshua Tree National Park. The oasis at Twentynine Palms had originally been explored by a military survey party led by Colonel Henry Washington in 1885 (Greene 1983). At its height of operations the area supported numerous mining districts (Greene 1983). At its full extent the area in and around the park supported numerous mining districts, including Twentynine Palms, Washington, Gold Park, Piñon, Cottonwood, Eagle Mountain, Monte Negras, Rattler, and Dale (Greene 1983:89-90).

One of the major mining areas opened up as a result of the Southern Pacific line from Mojave to Needles was the Buckeye Mining district, located in the mountains south of the rail line and approximately 50 miles east-southeast of Barstow. Two of the principal mines begun in the area in the late 1880s were the Bagdad and Roosevelt mines, established by John Suter (Ross 2001). A rich gold ore deposit was found in the late 1890s, after the claims had been sold by Suter. The first shipment of ore was delivered to the Randsberg-Santa Fe reduction company's stamp mill in Barstow in 1901 (Ross 2001). A second mining company, the Benjamin E. Chase Gold Mining Company, had been set up in the Buckeye district. Chase was also the president of the Ludlow & Southern Railway, which was built in 1903 to transport ore form the Chase mines to the railhead at Ludlow (Ross 2001). The two operations merged in 1904, and between then and 1910 it was the largest gold producing operation in San Bernardino County. It was also the largest copper producing operation in the county. Gold production fell after 1910, and the mines were worked intermittently from 1910 to the 1970s.

A mining boom started in the Mojave Valley in 1860 after silver was discovered by Robert W. Waterman and John L. Porter (Hector 1987). By the early 1880s the Calico silver mining district was established, and the town of Calico was founded in 1881 along the Mojave River. Silver deposits were also discovered around Ivanpah, which became a major mining district in the 1870s, and in the Providence Mountains in the 1870s-1880s (Greene 1983). In addition to silver and gold, borate deposits were found in 1883 north of Daggett by Hugh Stevens and Bill Neel. Mining commenced soon after, and in 1888 the most promising claims were purchased by Francis M. Smith, who also owned the borax mines in the Death Valley area.

Numerous silver mines were also established during the early 1860s in the Coso Range, resulting in the establishment of the Coso Mining Company and the Coso Gold and Silver Mining Company, among others (Norwood et al. 1980). Mining success fluctuated greatly in these areas and was never as successful as some other areas. A third mining area was established in 1865 in the Inyo Range on the southeast side of the Owens Valley, centered at Cerro Gordo. This area was very productive, and by 1868 the Union Mine at Cerro Gordo was the most productive silver mine in the United States (Norwood et al. 1980). Labor disputes, lack of a railroad, and economic recession caused problems sustaining mining activities in some areas. Other areas with gold and silver finds relatively quickly became played out, and miners move on to more productive areas.

In addition to gold and silver, salt was mined in the Saline Valley east of Independence. Salt mining began in 1864 and continued until 1918, but transportation costs kept the enterprise from growing to a major operation (Norwood et al. 1980). The Saline Valley Salt Tram, located just east of the planning area, was completed in 1913 to transport salt over the Inyo Mountains to Owens Valley where it was then shipped via railroad. It was the steepest tram in the United States rising from 1,100 feet in the Saline Valley to 8,500 feet at the crest of the Inyo Mountains, and then dropping to 3,600 feet in Owens Valley. The tram is on the National Register of Historic Places (#74000514) (Conrad 1973).

From 1945 to 1957, the Anaconda Copper Company made the Darwin area the largest lead producing area in California. The mines were reopened again in 1967 and have remained active, albeit in a much less productive state. In a 1968, a report on the town of Darwin, it was estimated that there are 30 miles of workings and tunnels in the surrounding hills and canyons (Norwood et al 1980).

Agriculture and Ranching

As a result of the mining operations in the area around the Owens and Panamint valleys, farmers and cattlemen also moved into the area, especially the Owens Valley, to supply food to the miners. The influx of Americans into the area resulted in conflicts with the indigenous Native American groups (Norwood et al. 1980). Camp Independence was established by the Army in 1862 in the Owens Valley to quell Native American-White miner violence that had broken out in the area. Temporarily abandoned in 1864, it was re-occupied in 1865 after violence again broke out and remained active until abandoned in March 1877 (California State Military Museum 2011c).

Agriculture began in the Owens Valley as a response to the miners' need for food in the area. Although the area received little rain, the Owens River supplied enough dependable water for irrigation. By the beginning of the twentieth century, the city of Los Angeles was experiencing a severe water shortage and it was proposed to William Mulholland, president of the Los Angeles Water Department, that the Owens River be tapped to supply Los Angeles with water (Norwood et al. 1980). A $23 million bond was approved by Los Angeles voters, water rights were purchased, and an aqueduct was completed by 1913. The diversion of water to Los Angeles did not immediately impact agriculture in the Owens Valley, but a drought in 1921-1922 began a decline that ended farming in the area by the mid-1930s (Norwood et al. 1980).

During the 1880s, the area around Twentynine Palms began to be used as a cattle range, with a number of large cattle companies based in the Banning and Big Bear areas running their herds from Morongo Valley to Twentynine Palms (California State Military Museum 2011g). Ranches in the area included the Barker and Shay Ranch, Jim Mart's "I-S" outfit, the Chase and Law Ranch, and the Talmadge brand, all of which used the area during the winter months. Warren's Well was also the gathering point for the spring and fall cattle roundups until World War II (California State Military Museum 2011g).

Military Installations in the Planning Area

A chain of military posts was established in San Bernardino County between 1859 and 1860 by Captain James H. Carleton. These posts were created to protect the travel route, called the Old Government Road, from San Bernardino across the Mojave Desert to Fort Mojave, near Needles (Hector 1987). The posts were garrisoned by elements of the California Volunteers during the Civil War, and most were evacuated at the war's end. Due to local concerns for protection of travel route and increasing mining activity, the posts were reoccupied in the late 1860s (California State Military Museum 2011b). Two of the more substantial posts were Fort Piute and Camp Cady. Fort Piute was established about 20 miles east of Fort Mojave, and Camp Cady was located about 20 miles east of Barstow (California State Military Museum 2011b). Both had permanent buildings constructed of either adobe or rock. Both also had histories of abandonment and reoccupation, with Fort Piute finally being abandoned in 1868 and Camp Cady in 1871 (California State Military Museum 2011b).

In Inyo County, Camp Independence was established by the Army in 1862 as a result of disputes between the Owens Valley Paiute and local ranchers. As cattleman and ranchers moved into Owens Valley and cattle grazed on the Paiute food supply, the Paiute stole and killed some cattle for food. The ranchers armed themselves and violence between the Native Americans and whites escalated; this became known as the Owens Valley Indian War (1861-1865). The ranchers asked the help of the military in Los Angeles and Fort Tejon. Camp Independence was built to quell the conflicts between the Native Americans and ranchers and protect the road to the mines in Nevada. The Paiute were escorted to San Sebastian Indian Reservation in 1863. The camp operated until 1877 when disputes subsided (California State Military Museum 2011c).

The presence of the military in the Planning Area increased dramatically in the years immediately before and after America entered World War II. One of the first to open was Fort Irwin. Originally established as the Mojave Anti-Aircraft Range, it was opened in 1940. In 1942 the range was renamed Camp Irwin, in honor of MG George LeRoy Irwin (California State Military Museum 2011e). It was deactivated in 1944 and reactivated in 1951 as Camp Irwin Armoured Combat Training Area for troops destined for the Korean conflict (California State Military Museum 2011e). The first antenna to support the National Aeronautics and Space Administration's unnamed exploration of deep space, called Pioneer Deep Space Station, was constructed at Fort Irwin in 1958 (NPS 2013). Renamed Fort Irwin in 1961, it was declared a permanent installation. Deactivated again in 1971, it was reactivated in 1980 as the National Training Center and serves as a major training facility for the Army, Marine Corps, and National Guard (California State Military Museum 2011e). The Pioneer Deep Space Station National Historic Landmark is located within Fort Irwin and is on the National Register (#85002813).

Edwards Air Force Base (AFB), located north and east of Lancaster, was established in 1942 on land first purchased in 1933 for use as a bombing range of units stationed at March AFB (Miksell 2000). The facility was from inception used for testing of highly secret developmental aircraft (Miksell 2000). Rogers Dry Lake is located within the base and its natural attributes of clean air, isolated location, weather, variable terrain, and large expanse was ideal for the military to flight test aircraft. The base emerged during the Cold War as a premier Air Force high-technology complex, especially important in the areas of experimental flight testing, captive flight testing (test tracks), rocket propulsion research, and in the 1960s, a center for astronaut training (California State Military Museum 2011d). Edwards AFB continues to be a major testing facility of new and experimental aircraft. In 1985 Rogers Dry Lake was added as a National Historic Landmark and is now listed on the NRHP (# 85002816). It is also a National Historic Site and as such part of the National Park system.

The Marine Corps Air Ground Combat Center, Twentynine Palms (MCAGCC) was first opened in 1940 as an Army glider training area (California State Military Museum 2011g). Converted to an Army fighter pilot training and bombing range in 1943, it was decommissioned and the land transferred to the County of San Bernardino in 1945. In 1952 the Marine Corps took control of the property and named it Headquarters Marine Corps Training Center, Twentynine Palms, California (State Military Museum 2011g). It became the MCAGCC, Twentynine Palms in 1979. At approximately 495 square miles, it is the largest Marine Corps Base in existence.

The Marine Corps Logistics Base, Barstow, opened in the summer of 1942 as Navy Supply Depot, Barstow, but was transferred to the Marine Corps as it was being completed in December of the same year (Hector 1987). The logistics base supplied material needed for the Fleet Marine Forces in the Pacific theater during World War II. The base also saw significant expansion

during the Korean War years, and has continued to expand its services to the Marine Corps in the subsequent decades (Hector 1987). Because it employs a large number of civilian workers, the growth of the base has also resulted in the growth of the nearby town of Barstow.

Naval Air Weapons Station China Lake (NAWS CL), originally called Naval Ordinance Test Station Inyokern, was established in 1943 for the California Institute of Technology to conduct research into rockets and rocket propellants (Miksell 2000). NAWS CL continued after World War II with development and testing of guided missiles, jet aircraft ejection systems, and later space program capsules and the intercontinental ballistic missile development program (Miksell 2000). NAWS CL is the Navy's largest single land holding at 19,600 square miles and continues as their center for research, testing and evaluation of weapons systems. The Coso Rock Art District National Historic Landmark is within the boundaries of NAWS CL and is on the National Register (#66000209).

3.9.3.2 Identified Resources

Cultural Resources

The CDCA Plan provides management for approximately 25 million acres in Imperial, Kern, Los Angeles, Inyo, Riverside, and San Bernardino counties. The 9.4 million acres encompassed by the West Mojave Area are entirely within the CDCA. To describe the cultural resources within the Planning Area on a programmatic level, various sources were researched to gather information regarding the types and number of cultural resources. The baseline of the knowledge and understanding about cultural resources within the CDCA Planning Area comes from studies completed between 1969 and 1980 in support of the Plan. During the CDCA planning phase, approximately 179,200 acres were systematically inventoried using a variety of methods including stratified random sample surveys to intensive purposive surveys. Surveys and overviews conducted as planning for the CDCA within the Planning Area are listed in Table 3.9.3-1. Each of these investigations identified areas with higher sensitivity for finding cultural resources, the types of resources found, and the ethnographic and historic background. They also contained recommendations for protecting cultural resources including installations of fencing, signage, and road closures.

As of January 1, 1980, there were an estimated 14,229 recorded cultural resources within the CDCA Planning area. A sample of 2,903 sites were categorized by site type, including: villages, temporary camps, shelter/cave, milling station, lithic scatter, quarry site, pottery locus, cemetery, cremation locus, intaglio/geoglyph, rock alignment, petroglyph, pictograph, trail, roasting pit, isolated find, cairn, historic, other, and multiple (Table 3.9-1). The table identifies a wide range of cultural resources including habitation sites, temporary camps, rock shelters, caves, milling stations, lithic scatters, chipping circles, quarries, ceramic scatters, cemeteries, cremation features, rock alignments, geoglyphs, petroglyphs, pictographs, trails, roasting pits, cairns, isolated artifacts, mines, homesteads, historic campsites, and historic trash scatters. For definitions for these site types, see the CDCA Proposed Plan Final Environmental Impact Statement, Appendix Volume D (BLM 1980).

Table 3.9-1. Sample of Sites From the CDCA Plan

Site Types in CDCA Plan	# of Sites	Time Period	Eligibility
Village	27	Prehistoric	Eligible
Temporary camp	426	Prehistoric	Possibly
Shelter/cave	163	Prehistoric	Possibly
Milling station	262	Prehistoric	Possibly
Lithic scatter	689	Prehistoric	Possibly
Quarry site	30	Prehistoric	Possibly
Pottery locus	67	Prehistoric	Possibly
Cemetery	0	Prehistoric	Eligible
Cremation locus	2	Prehistoric	Eligible
Intaglio/geoglyph	1	Prehistoric	Eligible
Rock alignment	11	Prehistoric	Possibly
Petroglyph	57	Prehistoric	Eligible
Pictograph	0	Prehistoric	Eligible
Trail	41	Prehistoric	Possibly
Roasting pit	342	Prehistoric	Possibly
Isolated find	311	Prehistoric	Not eligible
Cairn	18	Prehistoric	Unknown
Historic	319	Historic	Possibly
Other	49	Unknown	Unknown
Multi-component	88	Both	Possibly
Total	**2903**		

Prehistoric and historic properties and traditional cultural properties on federal lands are formally identified as significant by being listed in the National Register of Historic Places (NRHP) or determined eligible for listing.

Current Status of Sites within the West Mojave

Cultural resource inventories completed to date in the WEMO planning area include the sampling survey associated with the original CDCA Plan, and inventories completed for large-scale renewable energy projects, infrastructure projects such as highway and transmission corridors, and small-scale development projects. The BLM has also conducted 124 inventories associated with OHV travel and ACECs, covering approximately 24,320 acres. BLM has prepared a summary of OHV related inventories as a component of the Section 106 process.

In 2013, BLM conducted a review of cultural resource records for the West Mojave planning area to update the BLM cultural resource GIS-based geodatabase and identify additional sites that may be affected by the transportation network alternatives. This data was integrated into a GIS layer file used during development and analysis of alternatives. Table 3.9-2 lists the currently known cultural resources, including NRHP listed Districts and Sites that have been

identified within the West Mojave planning area. Table 3.9-3 provides an overview of resources listed on the NRHP which occur within the West Mojave Area.

Table 3.9-2. Summary of Known Cultural Resources in the West Mojave

Location (Travel Management Area)	National Register Listed Districts	National Register Listed Sites	Total Sites
TMA 1	0	0	792
TMA 2	1	4	1137
TMA 3	0	0	780
TMA 4	0	0	1745
TMA 5	2	0	1212
TMA 6	0	0	1469
TMA 7	3	6	1217
TMA 8	1	1	1361

Table 3.9-3. West Mojave Sites and Historic Districts Listed in the National Register of Historic Places

Property Name	County	Sites Included	Known Values	Current Condition
Ayres Rock	Inyo County	Rock Art	Traditional Use; Conservation; Scientific	Site has some erosion evidence from an old user created trail no longer in use. A single MC trail was noted on site during monitoring. Site is regularly monitored by a team of site stewards.
Bandit Rock (Robber's Roost)	Kern	1 (several sites present were not included in nomination)	Historic (sites not included in nomination are prehistoric)	Unauthorized OHV activity beyond posted signs, currently used for camping, shooting and hunting.
Black Mountain Rock Art District	San Bernardino	9000 (est)	Scientific, conservation, traditional use, public; within Black Mountain ACEC and Black Mountain Wilderness	2 sites noted with some ongoing damage from looters. Signs have been erected and site stewards monitor the locations. Signs posted at Black Wash to inform visitors of fragility and punishment. Fence also erected to keep vehicles out of Inscription Canyon is in good condition.
Blackwater Well	Kern	17	Prehistoric	Open routes through the site. Artifacts occur within the roadways and erosional drainages created by use of the road.

Table 3.9-3. West Mojave Sites and Historic Districts Listed in the National Register of Historic Places

Property Name	County	Sites Included	Known Values	Current Condition
Burro Schmidt's Tunnel	Kern	1	Historic (Not Yet Recorded)	Ongoing tourism, mining and looting have impacted the site over the years.
Calico Mountains Archeological District	San Bernardino	n/a	Scientific, traditional use, public	One site under excavation for recovery of artifacts. Other sites within and adjacent to a County Park. Ongoing scientific inquiry and tourism have impacted the sites over the years. Unauthorized OHV activity beyond posted signs, currently used for camping, shooting and touring.
Fossil Falls Archaeological District	Inyo	32	Scientific, conservation, traditional use, public; Prehistoric; includes part of Fossil Falls ACEC	One set of recent MC tracks noted past the barrier for 120 meters, which turned around at that point, site in the area was not disturbed. Indicates more signing may be needed.
Last Chance Canyon Archaeological District	Kern	160 (an additional 55 sites within 2 mile radius of boundary)	Prehistoric/historic/Native American; Last Chance Canyon ACEC within boundaries	Wilderness sites are generally intact. Other sites are currently being mapped and monitored under contract. Some important contributing sites are evaluated separately in this table.
Newberry Cave	San Bernardino	1	Conservation, traditional use	The site is in good condition and shows no signs of OHV activity in the area. Newberry Cave is situated on a rocky steep mountain with no OHV access.
Red Mountain Spring Archaeological District	San Bernardino	23 formally recorded; a number of others being documented as a result of recent research	Mostly prehistoric but some historic remains	Area has been partially fenced and closed to OHV use. A guzzler and weather station are located on one edge of the district boundary. Sites are in good condition, however, unauthorized OHV tracks were observed in several of the sites off of a two track road

Table 3.9-3. West Mojave Sites and Historic Districts Listed in the National Register of Historic Places

Property Name	County	Sites Included	Known Values	Current Condition
Rodman Mountain Petroglphs Rock Art District	San Bernardino	4 major loci: SBR307A, B, C (Deep Tank), SBR306A, B, C (Surprise Tank Howes Tank Rodman Mtns Geoglyph Site	Scientific, Conservation, Traditional Use, Public	Howe's Tank is in wilderness, and has no damage. The road to the site shows no evidence of use. Deep Tank is in good shape and no damage was observed. Rodman Mountain Geoglyph site is fenced and shows no signs of incursions. Surprise Tank Canyon has existing damage from graffiti and attempted removal of glyphs (first noted in the 1970s.) Signs posted at the canyon to inform visitors of fragility and punishment. Fence also erected to keep vehicles out of canyon is in good condition. Site stewards regularly monitor the District. New OHV incursions not noted.
Steam Well Petroglyphs Archaeological District	San Bernardino	4	Prehistoric	Sites in wilderness. OHV is noted to the boundary of the wilderness area and trailhead, but does not appear to be entering the wilderness. Sites not monitored inside of wilderness.
Trona Pinacles Railroad Camp	San Bernardino	Camp associated with the Trona RR.	Scientific, Historic	Site in good condition. OHV impacts minimal despite location near an authorized route and increased visitation to the area.
Twenty-Mule Team Borax Wagon Road	San Bernardino	1	Historic	The road alignment is currently open to use by OHV. Portions of the route are widened by use.

The site location data collected as part of this planning effort indicate many portions of the planning area may be considered sensitive for the occurance of cultural resources. The West Mojave Planning Area is characterized by a variety of environmental zones and associated natural resources that include, among other features, pleistocene lakes, the Owens and Mojave River Corridors, perennial seeps and springs, the prominent Sierra Nevada Mountain Range, and smaller desert mountain ranges. The northwestern and southeastern portions of the planning are typified by environmental transitions between the Mojave Desert and the Great Basin and the Mojave Desert and Sonoran Desert, respectively. As part of the initial data acquisition program developed between BLM and SHPO, BLM completed monitoring of all NRHP listed sites on public lands in the planning area, and a sample of sites per Subregion. The results of this program are listed in Table 3.9-4.

Table 3.9-4. Other West Mojave Sites Monitored for this Planning Effort

Name	Cultural Resource Values	Current Condition
CA-INY-372	Conservation; Scientific; Traditional use	No evidence of unauthorized OHV use on site; frequent visitation
CA-INY-372/H	Conservation; Scientific; Traditional Use	Recent OHV travel noted thru the site, and an informal turnaround on-site. LADWP or site visitors continuing to use historic route. Potential evidence of recent attempts at looting. Noted additional minimization action needed.
CA-INY-1639	Scientific; Traditional Use; Public	Fossil Falls Contributing: Footprints noted in the site, but no evidence of recent vandalism.
CA-INY-1642	Traditional Use; Public	Fossil Falls Contributing: One set of recent MC tracks noted past the barrier for 120 meters, site in the area was not disturbed.
CA-INY-1643	Conservation; Scientific; Traditional Use	Fossil Falls Contributing: Majority of site now protected from OHV access by barriers and regular monitoring. Visitation directed away from this site toward main lava flow (Fossil Falls) has been effective.
CA-INY-1997	Traditional Use	The site is in stable condition. Signs of recreational shooting and OHV traffic is noted in the vicinity. Burros are currently utilizing natural water retention areas near the site.
CA-INY-2147/H	Traditional Use	Site in stable condition. Road in good condition. Additional recordation of sites conducted during monitoring.
CA-INY-2268H	Scientific	No impact; inaccessible. Needs additional recordation.
CA-INY2821/H	Traditional Use	Site in stable condition with minimal impact from OHV use or visitation. Site regularly monitored by a site steward.
CA-KER-140	Scientific; Traditional Use	Numerous OHV incursions noted thru the site.
CA-KER-148	Traditional Use; Contributing to listed district	Last Chance Canyon: Continued OHV use through site
CA-KER-208/H	Scientific; Traditional use	Site in Stable Condition, fencing keeping most OHV and livestock away from site
CA-KER-226/H	Conservation; Scientific; Traditional use	New vandalism (spray paint of rock art) and single OHV tracks into site. Noted needed fence repair and add'l rehab

Table 3.9-4. Other West Mojave Sites Monitored for this Planning Effort

Name	Cultural Resource Values	Current Condition
CA-KER-250	Traditional Use; Contributing to listed district	Last Chance Canyon: Impacts from erosion and OHV intrusions, location is near a mine and 2 routes
CA-KER-261	Scientific; Public; Contributing to listed district	Last Chance Canyon: Designated route adjacent to site
CA-KER-437	Scientific; Contributing to listed district	Last Chance Canyon: Site condition improving after barriers and rehab. No recent OHV traffic
CA-KER 967	Traditional Use	Site approx. 300 meters from designated route. No OHV use noted on site—existing impacts limited to use of main access route leading to major destinations. Additional recordation of site needed.
CA-KER-968/1716	Traditional Use	Site larger than previously recorded and bisected by an authorized route. MC tracks and a campfire ring were noted off the main route. Needs signing to direct camping and use to main camping area further to the west, and additional recordation.
CA-KER-6430	Scientific	Site stable and conditions improving since barrier installation. Newly exposed diagnostic artifacts collected to prevent additional site looting
CA-KER-7816	Scientific; Traditional use	Site in good and stable condition but OHV activity continues through site past installed barrier. Noted needed add'l rehab
CA-KER-7819/H	Conservation; Scientific; Traditional use	Site in stable condition. Grazing impacts noted outside of fenced area. No signs of looting or vandalism.
CA-SBR-134	Traditional Use: Rock Art	Site in good condition.
CA-SBR-211	Traditional Use, Habitation Site	Red Mountain Spring ACEC. Site is in stable condition. Signs of OHV incursions beyond locked gate.
CA-SBR-561	Conservation; Scientific; Traditional Use: Large habitation site with artifacts, spring, mortar, previous discoveries of human remains.	Site in good condition and shows no signs of OHV disturbance. Site is fenced, within a preserve, and has a caretaker who monitors and lives at the preserve.
CA-SBR-697	Scientific; Traditional Use: Large lithic quarry.	Site substantially disturbed by a modern, abandoned quarry. Evidence of visitation and traffic in and around the quarry has had minimal adverse effects on the site.

Table 3.9-4. Other West Mojave Sites Monitored for this Planning Effort

Name	Cultural Resource Values	Current Condition
CA-SBR 1012/H	Scientific, Traditional Use: Prehistoric and historic quarry	Christmas Canyon ACEC. Site is in stable condition. Elimination of this area from OHV events has contributed to restoration of sites previously impacted by OHV use.
CA-SBR-1908/H	Conservation; Scientific; Traditional Use: Multicomponent site with 494 features	Site in good condition and shows no signs of OHV disturbance
CA-SBR-1968	Scientific; Traditional Use: Large lithic procurement and habitation site	Site in good condition and shows no signs of OHV disturbance
CA-SBR-2071H	Traditional Use: Large historic dump site	Site in good condition and shows no signs of OHV disturbance
CA-SBR-2142/H	Scientific; Traditional Use: Prehistoric camp site with lithic tools, and debitage surrounding Stoddard Well (Smith 1939). Historic component includes Stoddard Well and area, and represent several phases of use or development.	Site in good condition and shows minimal damage despite its location along the well-used Stoddard Wells Road (CA-SBR-9360H).
CA-SBR-2280	Traditional Use	Site previously described with 4 loci. The probable locations were inventoried, but site not relocated.
CA-SBR-2596	Conservation; Scientific; Rock Art	Red Mountain Spring ACEC. Site is inaccessible by OHV and is in stable condition
CA-SBR-2597	Conservation; Scientific; Prehistoric campsite	Red Mountain Spring ACEC. Unauthorized and previously open OHV route in vicinity of the site. Site is in stable condition.
CA-SBR-2600/H	Conservation; Scientific; Prehistoric habitation and historic development	Red Mountain Spring ACEC. Unauthorized, single-track motorcycle tracks observed through site. Previously open route has been blocked by locked gate.
CA-SBR-2609	Conservation; Scientific Use. Prehistoric habitation	Red Mountain Spring ACEC. Unauthorized, single-track motorcycle tracks observed through site. Previously open route has been blocked by locked gate.
CA-SBR-2610	Conservation; Scientific Use. Prehistoric habitation	Red Mountain Spring ACEC. Unauthorized, single-track motorcycle tracks observed through site. Previously open route has been blocked by locked gate.

Table 3.9-4. Other West Mojave Sites Monitored for this Planning Effort

Name	Cultural Resource Values	Current Condition
CA-SBR-2611	Conservation; Scientific Use. Prehistoric habitation	Red Mountain Spring ACEC. Unauthorized, single-track motorcycle tracks observed through site. Previously open route has been blocked by locked gate.
CA-SBR-2612	Conservation; Scientific Use. Prehistoric habitation	Red Mountain Spring ACEC. Unauthorized, single-track motorcycle tracks observed through site. Previously open route has been blocked by locked gate.
CA-SBR-2613	Conservation; Scientific Use. Prehistoric habitation	Red Mountain Spring ACEC. Unauthorized, single-track motorcycle tracks observed through site. Previously open route has been blocked by locked gate.
CA-SBR-2614	Traditional Use: Lithic reduction scatter of 5,435 sq. meters near the National Old Trails Road with 90 prehistoric artifacts and 4 loci.	The overall condition of this site is good with no alterations. The site shows no signs of OHV disturbance.
CA-SBR-2910H	Scientific; Traditional Use: Prehistoric occupancy site	Site on both public and private land and shows no sign of OHV activity.
CA-SBR-3594 (Ragtown)	Traditional Use; Public: Historic mining and RR features, mostly post1930's covering approx. 2 sq. miles.	Site access fenced on private land and shows no sign of OHV activity.
CA-SBR-3780	Scientific; Traditional Use: Prehistoric occupancy site	Site on both public and private land and shows no sign of OHV activity.
CA-SBR-4020H	Traditional Use: 2 concentrations of historic and non-historic trash.	Site in fair condition and shows continuing authorized OHV activity (transmission line).
CA-SBR-4022/H	Traditional Use: Prehistoric small lithic and historic refuse scatter. The historic components may be associated with the historic wagon road or other linear features.	Site in fair condition with nearby authorized OHV activity (transmission line).
CA-SBR-5340	Conservation, Traditional Use: Prehistoric lithic scatter and occupation site	Christmas Canyon ACEC. Removal of this area from OHV events has allowed sites to rehabilitate. Site in stable condition.
CA-SBR-6018	Scientific; Traditional Use: Prehistoric lithic and occupation site	Site in good condition and shows no sign of OHV activity.
CA-SBR-10509	Traditional Use	Site intersected by SR247 and shows no sign of OHV disturbance
CA-SBR-10576/H	Scientific; Traditional Use: Prehistoric quarry, reduction sites, and rock cairns	Site in stable condition and shows no signs of OHV disturbance

Table 3.9-4. Other West Mojave Sites Monitored for this Planning Effort

Name	Cultural Resource Values	Current Condition
CA-SBR-10850/H	Conservation, Scientific Use: Prehistoric lithic scatter with historic mining features	Christmas Canyon ACEC. Removal of this area from OHV events has allowed sites to rehabilitate. Site in stable condition.
CA-SBR-11422H	Traditional Use: Remnant industrial site and historic blacksmith shop remnants	Site in stable condition and shows no signs of OHV disturbance
CA-SBR-11776	Traditional Use	Site on both public and private land, and continues to be used as an illegal trash dump
CA-SBR-12297	Conservation, Scientific Use: Prehistoric habitation	Red Mountain Spring ACEC. Unauthorized, single-track motorcycle tracks observed through site. Previously open route has been blocked by locked gate
CA-SBR-13182	Conservation, Scientific Use: Prehistoric lithic scatter and habitation	Christmas Canyon ACEC. Removal of this area from OHV events has allowed sites to rehabilitate. Site is immediately adjacent to existing OHV route. Site is in stable condition.
CA-SBR-13183	Conservation, Scientific Use: Prehistoric lithic scatter and habitation	Christmas Canyon ACEC. Removal of this area from OHV events has allowed sites to rehabilitate. Site is immediately adjacent to existing OHV route. Site is in stable condition.
CA-SBR-13184	Conservation, Scientific Use: Prehistoric lithic scatter and habitation	Christmas Canyon ACEC. Removal of this area from OHV events has allowed sites to rehabilitate. Site is immediately adjacent to existing OHV route. Site is in stable condition.
CA-SBR-13185	Conservation, Scientific Use: Prehistoric lithic scatter and habitation	Christmas Canyon ACEC. Removal of this area from OHV events has allowed sites to rehabilitate. Site is immediately adjacent to existing OHV route. Site is in stable condition.
CA-SBR-13186	Conservation, Scientific Use: Prehistoric lithic scatter	Christmas Canyon ACEC. Removal of this area from OHV events has allowed sites to rehabilitate. Site is immediately adjacent to existing OHV route. Site is in stable condition.

Table 3.9-4. Other West Mojave Sites Monitored for this Planning Effort

Name	Cultural Resource Values	Current Condition
CA-SBR-13187	Conservation, Scientific Use: Prehistoric lithic scatter	Christmas Canyon ACEC. Removal of this area from OHV events has allowed sites to rehabilitate. Site is immediately adjacent to existing OHV route. Site is in stable condition.
CA-SBR-13193	Conservation, Scientific Use: Prehistoric lithic scatter	Christmas Canyon ACEC. Removal of this area from OHV events has allowed sites to rehabilitate. Site is immediately adjacent to existing OHV route. Site is in stable condition.
CA-SBR-13370	Scientific; Traditional Use: Prehistoric habitation from two periods	Site in good condition and does not show signs of OHV disturbance
CA-SBR-15917H	Traditional Use; Public: Historic mine features	Site in good condition and does not show signs of OHV disturbance
CA-SBR-16064	Site evaluation indicates the site does not meet NRHP eligibility requirements	Site in good condition and does not show signs of OHV disturbance
EL-1	Public: Historic foundations with no associated trash midden or datable material and low potential for sub-surface deposits.	Site in fair condition in El Mirage OHV Open Area.
MK-1	Traditional Use	Re-identified old site bisected by an authorized route. OHV and associated camping impacts along route noted. Needs additional recordation.
PL-SOK-MMO-113 - Unevaluated	Scientific; Traditional Use: Prehistoric quarry and lithic scatter	Site shows evidence of historic mining disturbance
Afton Cemetery Site	Scientific; Traditional Use: Prehistoric graves	This site is in good condition and shows no sign of OHV activity.
Christmas Canyon Arch. District	Conservation, Scientific; Traditional Use; includes Christmas Canyon ACEC	OHV activity has been limited due to closure of this area to OHV events. Some OHV use observed off designated trails
Indian Wells Canyon	Traditional Use, Public	High intensity use area due to closeness to PCT and the main route also provides popular wilderness access. Impacts are from hunting and use of authorized route.
Maze Site	Traditional Use: Historic adits, shafts and mining prospects, large geoglyph approx. 6.8 ac.	Site shows some signs of OHV disturbance.
Red Mountain Spring	Conservation; Traditional Use; Designated ACEC	Unauthorized, single-track motorcycle tracks observed through site. Previously open route has been blocked by locked gate.

There are 29 areas of critical environmental concern (ACEC) within the West Mojave Area. Of these 29, 17 are important and relevant in total or in part for their cultural resources values and many include sites that are listed in Table 3.9-3 or Table 3.9-4 above. Table 3.9-5 describes ACECs with cultural components that have been designated within the West Mojave planning area. Each ACEC has its own management plan with more specific protection goals and descriptions of the cultural resources. Some are valued for their prehistoric sites, some for their historic era sites, some for their Native American values, and some for a combination of these.

Table 3.9-5. Cultural Resource ACECs in the West Mojave Area

ACEC	Cultural Resource Values
Afton Canyon	Moderate density and complexity of sites. Twenty recorded prehistoric sites, including quarries, lithic scatters with ground stone, and occupation/multi-use sites. Represent riparian and lacustrine resource exploitation, tool manufacture, trade, and desert settlement (Bureau of Land Management 1989:38). Scientific use.
Bedrock Spring	Prehistoric. Subject to current research by BLM, this ACEC also contains a variety of site types including habitation sites, rock shelters, rock art, milling, and others. Publication of current research will add materially to our understanding of prehistory in this portion of the Mojave Desert.
Black Mountain	Area contains the most extensive assemblages of prehistoric petroglyphs within California. Quarry and lithic workshops are found within the ACEC as well as evidence for obsidian trade (Bureau of Land Management 1988:6). Scientific, traditional use.
Calico Early Man Site	Lithic tools and debitage are associated with possibly the earliest human occupation on the North American continent. Continued research investigates human occupation and settlement of the Western Hemisphere (Bureau of Land Management 1984:2.1). Public use.
Christmas Canyon	Prehistoric. Subject of current research that is revealing a large and very significant complex of sites, including examples of rare cultural phenomena. Some sites are related to various stands of Pleistocene Lake Searles and preliminary dates indicate great age for some of them, while at least one site contains historic materials, indicating a very long period of use.
Cronese Lakes	This area contains sites representing occupation beginning 8,000 years ago. Cultural remains provide information regarding subsistence and settlement patterns in the Great Basin (Bureau of Land Management 1985:1-5). Scientific use.
Denning Spring	Cultural resource values include at least four major resource locations. In addition to historic resources not formally recorded, prehistoric sites are designated SBR3828 and SBR 3829B and 3829C (Bureau of Land Management 1982:3). Scientific use.
Fossil Falls	Large complex of prehistoric sites associated with Pleistocene Owens River, 32 of which are listed in the National Register. Research here dates back to work of M.R. Harrington in the 1950s. Area includes the Stahl site, on private land, also an important type site for explication of western Great Basin/Northern Mojave cultural chronology.
Jawbone-Butterbredt	Native American values. Contains a number of locations that were identified by a Kawaiisu elder whose family had lived in the area, including prehistoric and proto-historic/historic archaeological sites, sacred areas, and areas that were known or thought to contain burials.
Juniper Flats	Numerous sites have open trash middens, evidence of cooking, tool manufacture, hunting, and plant/animal processing. An occupied rockshelter is also present. Early historic remains are related to homesteading and mining (Bureau of Land Management 1988:9). Scientific use.
Last Chance Canyon	Prehistoric. Part of the Last Chance Canyon National Register District; the portion of the District considered to be most at risk was selected for ACEC status. Also includes important historic resources.

Table 3.9-5. Cultural Resource ACECs in the West Mojave Area

ACEC	Cultural Resource Values
Rainbow Basin	The badlands within the planning area expose one of the best known and most intensively studied late Miocene age fossil assemblages in the United States. Fourteen archaeological sites have been located, characterized by temporary habitation, flake scatter, petroglyphs, historic mining remnants (Bureau of Land Management 1991:32, 36). Scientific, traditional, public use.
Red Mountain Spring	Prehistoric. Contains 23 recorded sites and other sites that have been located during recent research by Cal Poly Pomona archaeologists. Site types include habitation sites, lithic scatters, milling features, rock art, trails, stacked stone structures, and hunting blinds. Although the ACEC was designated for prehistoric resources there are also historic materials within the ACEC.
Rodman Mountains	Rock art sites in this area have been listed on the NRHP.
Rose Spring	Contains several prehistoric sites. Research at these sites started in the 1950s and continues (Lanning 1963, Riddell 1956). These sites are type sites for cultural chronology of the western Great Basin.
Salt Creek Hills	Site of the first hard rock gold mine in the Mojave Desert (Bureau of Land Management 1992:5). Public use.
Steam Well	Prehistoric. Contains four petroglyph sites

Most archaeological sites have not been evaluated for their significance or eligibility for listing in any formal roster of significant sites. Because one of the criteria for determining whether or not a site may be eligible for listing in the National Register is that the site has "yielded, or may be likely to yield, information important in prehistory or history" (36 CFR 60) many site types are a priori eligible for listing and are treated as such for management purposes regardless of whether or not formal determinations have been made. Such site types include permanent or semi-permanent habitation sites ("villages"); temporary camps containing multiple tool types, especially if they contain obsidian; and utilized shelters or caves that contain the same types of materials. As analytical techniques improve or new technologies are perfected, the kinds of data that can be extracted from archaeological materials increase. In contrast to most archaeological sites, which generally provide information on aspects of material culture and relationships between sites and groups of people, sites containing rock art (petroglyphs and pictographs) can provide glimpses into the intellectual and spiritual aspects of culture. Historic sites may yield information on industrial technologies and how they were used or adapted in individual situations; ethnic, gender and age make-up of working populations; food preferences; availability of luxury items to various groups; and even how speculation on Wall Street affected small mining operations in the western United States (Barnes 2001).

All of this means that many, many archaeological sites, both recorded and unrecorded, are likely to be found to be significant and eligible for listing in the National Register of Historic Places if formally evaluated. For these reasons the actual number of sites listed in the National Register is not an accurate indicator of the significance of the resource base as a whole.

Historic Trails

National Historic Trails with alignments within the Planning Area include the Old Spanish National Historic Trail, a unit of the National Park System. Approximately 135 miles of the Old

Spanish National Historic Trail are within the Planning Area. In total, this trail is over 2,700 miles in length and crosses New Mexico, Colorado, Arizona, Utah, Nevada, and California. The various route alignments of this historic trail network were a combination of indigenous people's paths, and horse and mule exploration and trade routes utilized to transport merchandise and people in the early 1800s. Mexican trader Antonio Armijo is said to have led the first commercial caravan from Abiquiú, New Mexico, to Los Angeles late in 1829 (NPS 2012). By 1848, at the end of the Mexican–American War, the United States had taken control of the southwest, and with the subsequent Gadsden Purchase, planned a southern route for a transcontinental railroad. After 1848, use of the Old Spanish Trail declined as other routes to California were utilized. The Old Spanish National Historic Trail was established in 2002 and is co-administered by the NPS and BLM, but includes all land statuses. The Old Spanish National Historic Trail is not a constructed contiguous trail with a demarcated alignment, and it has very few officially designated hiking trails along the trail corridor. Although portions of the trail are in private ownership, points along it have public access, viewpoints, and interpretive sites for visitors. Almost none of Old Spanish National Historic Trail is on the Register, and because it is hard to find through pedestrian survey, it is not likely to even be recorded and evaluated. Therefore, the Old Spanish National Historic Trail designated alignment will be considered and treated as eligible for the National Register on the basis of its setting and visual characteristics and verified historical significance, unless the particular segment lacks integrity.

Sites within Grazing Allotments

As stated in Chapter 1, BLM currently utilizes the Supplemental Procedures for Livestock Grazing Permit/Lease Renewals: A Cultural Resources Amendment to the State Protocol Agreement between California Bureau of Land Management and the California State Historic Preservation Officer to address the NHPA Section 106 compliance for processing grazing permit renewals for existing livestock allotments. As a component of the Supplement, BLM conducts a Class I records review for each grazing allotment at the time of permit renewal. Regular monitoring and intensive inventory is conducted in areas of livestock congregation; specific issues identified from livestock grazing on cultural resources are addressed on a case-by-case basis. Table 3.9-6 displays a summary of known cultural resources organized by grazing allotments within WEMO.

Table 3.9-6 Summary of Cultural Resources within each Grazing Allotment

Allotment	Prehistoric	Historic	Combined	Unknown	Total
Antelope Valley	10	4	0	0	14
Bissell	16	6	1	23	46
Boron Sheep	50	26	3	32	111
Buckhorn Canyon	0	0	0	25	25
Cady Mountain	0	0	0	299	299
Cantil Common	347	361	15	89	812
Cronese Lake	0	0	0	250	250
Darwin	1	1	0	1	3
Double Mountain	0	0	0	0	0
Gravel Hills	30	2	0	98	130

Table 3.9-6 Summary of Cultural Resources within each Grazing Allotment

Allotment	Prehistoric	Historic	Combined	Unknown	Total
Hansen Common	150	21	5	56	232
Harper Lake	0	0	0	42	42
Johnson Valley	0	0	0	71	71
Kelso Peak	0	0	0	0	0
Lacey-Cactus-McCloud	111	16	8	147	282
Lava Mountain	56	1	0	8	65
Monolith Cantil	1	9		11	21
Oak Creek	5	1	1	0	7
Olancha Common	28	6	1	22	57
Ord Mountain	0	0	0	65	65
Pilot Knob	8	0	0	17	25
Rattlesnake Canyon	0	0	0	7	7
Round Mountain	0	0	0	52	52
Rudnick Common	288	117	24	32	461
Shadow Mountains	4	0	0	223	227
Spangler Hills	73	3	12	48	136
Stoddard Mountain	1	0	0	717	718
Superior Valley	1	0	0	134	135
Tunawee	250	20	41	97	408
Valley Well	0	0	0	1	1
Walker Pass Common	88	47	19	15	169
Warren	7	5	0	0	12

3.9.3.3 Methodology to Increase Information

The BLM, in consultation with the California SHPO and the Advisory Council on Historic Preservation (ACHP), has determined compliance with 43 CFR 8342.1 and Section 106 of the National Historic Preservation Act will be accomplished through the negotiation of a WEMO specific Programmatic Agreement (PA). As part of this process, the BLM is developing a GIS-based predictive model, a summary of cultural inventory completed to date, and a phased approach to additional cultural resource inventory in the planning area. The details of the PA will be determined in further consultation with the SHPO, ACHP, Tribal partners, and interested parties.

3.10 Visual Resources

Visual resources refer to the visible features and objects, natural and man-made, moving and stationary, which comprise the character of the landscape observed from a given location. These resources contribute to the scenic or visual quality/visual appeal of the landscape. Visual impact is the creation of an intrusion or perceptible contrast that affects the scenic quality of a landscape. A visual impact can be perceived by an individual or group as either positive or negative, depending on a variety of factors or conditions, such as personal experience, time of day, and weather or seasonal conditions.

3.10.1 Visual Resource Management System

The BLM's Visual Resource Management (VRM) System provides a way to identify and evaluate specific scenic values to determine the appropriate levels of management. It provides a way to analyze potential visual impacts, apply visual design techniques to ensure that resource uses and management activities are in harmony with their surroundings, and to meet the assigned VRM Class Objectives. VRM is a tool to identify and map essential landscape settings on public lands to meet public and community preferences and recreational experiences.

The VRM system consists of an inventory (Visual Resources Inventory, or VRI), an analysis, and the designation of visual resource management classes. The inventory stage involves identifying the visual resources of an area and assigning them to inventory classes using BLM's VRI process. The process includes rating the visual appeal of an area, measuring public concern for scenic quality, and determining whether the area is visible from travel routes or observation points. The process is described in BLM Handbook H-8410-1, Visual Resources Inventory (BLM 1986).

The inventory class descriptions are as follows:

I. Objective: Preserve landscape character. This class provides for natural ecological changes but does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

II. Objective: Retain existing landscape character. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract a casual observer's attention. Any changes must repeat the basic elements of line, form, color, and texture found in the predominant natural features of the characteristic landscape.

III. Objective: Partially retain existing landscape character. The level of change to the characteristic landscape should be moderate (or lower). Management activities may attract attention but should not dominate a casual observer's view. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

IV. Objective: Provide for management activities that require major modification of the landscape character. The level of change to the characteristic landscape can be high. Management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these

activities through careful location, minimal disturbance, and repetition of the basic landscape elements.

Visual resource inventory classes are assigned through the landscape rating inventory process. The exception is Class I, areas remain Class I where a management decision has previously been made to maintain a natural landscape. This includes areas such as national wilderness areas, the wild section of national wild and scenic rivers, and other congressionally and administratively designated areas where decisions have been made to preserve a natural landscape. Classes II, III, and IV are assigned based on a combination of scenic quality, sensitivity level, and distance zones. This is accomplished by combining the 3 overlays for scenic quality, sensitivity levels, and distance zones and using the guidelines specified in BLM Handbook H-8410-1 to assign the proper class. The end product is a visual resource inventory class overlay. Inventory classes are informational in nature and provide the basis for considering visual values in the planning/NEPA process. They do not establish management direction and should not be used as a basis for constraining or limiting surface disturbing activities.

The area's visual resources are then assigned to management classes with established objectives in the applicable land use plan, in conformance with other land use allocations made in the plan. VRM classes may differ from VRI classes, based on management priorities for land uses. These area-specific objectives provide the standards for planning, designing, and evaluating future management projects. The VRM class assigned to an area provides the standard by which to measure proposed resource uses and management activities and determine if visual impacts would meet the management objectives, or whether design adjustments would be required. A visual contrast rating process is used for this analysis, which involves comparing the project features with the major features in the existing landscape using the basic design elements of form, line, color, and texture.

3.10.2 Current Conditions and General Visual Setting

The topography within the WEMO Planning area is varied, and ranges from valley floor elevations of approximately 1,700 to 4,000 feet above sea level to mountain elevations of over 8,000 feet above sea level. The principle mountain ranges border the western side of the planning area, and include the San Gabriel, San Bernardino, Sierra Nevada, and Tehachapi Mountains. The mountains are generally oriented in a north-south direction, with broad alluvial fans at their bases. The mountain ranges tend to be rugged, providing a good visual effect, but they are also monochromatic. Between the mountain ranges are broad valleys which are also oriented north-south, and many have flat dry lakes in the valley bottoms. The valleys generally have large, uninterrupted panoramic vistas of the surrounding mountain ranges.

Vegetation types in the planning area depend on the topographic setting. The valley floors tend to be dominated by creosote bush, cholla, and yucca. Vegetation in washes in the mountains includes cat claw, mesquite, and shrubs, perennials, and grasses. Vegetation within the mountain ranges is sparse, and much of it is not visible from a large distance. However, it is visible from viewing points within the mountains, and includes Joshua trees, barrel cactus, and beavertail.

3.10.3 Visual Resource Inventory Classes

The Barstow, Ridgecrest, and Needles Field Offices have all completed visual resource inventories covering the nearly the entire WEMO Planning area. The acreage included in each VRI class is summarized in Table 3.10-1.

Table 3.10-1. Visual Resource Inventory Classes in the WEMO Area

VRI Class	Surface Acres	Percent of Planning Area
I	229,535	7
II	514,969	16
III	979,808	30
IV	1,235,137	38
Not Inventoried	285,346	9
Total	3,244,795	100

3.10.4 Characterization

The WEMO Planning area is highly fragmented, with a landscape experiencing a high degree of human modification due to urban development, its associated infrastructure and uses, and energy development. In addition, recreation plays a major role in the economy of the area, and much of the area is viewed en-route to or from major tourist destination areas, such as national parks. As the state's population grows, more visitors will be attracted to public lands for recreation in natural landscapes.

With increases in both resident populations and in tourism, scenic values and visual open space have become more important. Management direction aimed at preserving sensitive viewsheds will continue to compete with other land use allocation decisions and management activities for urban development, infrastructure needs, energy development, recreation uses, and other surface-use activities.

The impact analysis in Chapter 4 evaluates not only on the total mileage of routes, but the mileage within each VRI Class in the planning area. In Class III and IV areas, routes and vehicles may not be dominant, or even noticeable, and while the impact would still be considered adverse, it would be limited in magnitude. In Class I and II areas, where the objectives are to avoid attracting the attention of a casual viewer, the magnitude of the impact becomes more severe. Also, much of the impact from the route network is from the presence of the routes, rather than their use. The presence of routes would not substantially vary among alternatives, since the rate of rehabilitation would be the limiting factor in the planning horizon (which would not vary among alternatives) rather than the number of routes to be rehabilitated. Although motorized vehicle access is considered to be an adverse impact to the resource, it is also necessary, in many areas, to provide access for viewers to enjoy the visual resources in the region. Therefore, the level of impact can be subjective, depending on the viewer. A separate visual resources inventory was not conducted for livestock grazing.

3.11 Special Designations

Specially designated areas within the WEMO Planning area include wilderness areas, Wilderness Study Areas (WSAs), Areas of Critical Environmental Concern (ACECs), and Desert Wildlife Management Areas (DWMAs). These areas are managed to protect specific resources and values that were associated with their designation. The locations of ACECs are shown in Figure 3.11-1, and wilderness areas and WSAs are shown in Figure 3.11-2. The locations of DWMAs were shown in Figure 3.4-44. Information on designated wilderness areas and ACECs in grazing allotments is displayed in Table 3.7-3.

In addition, as required in Section 603 of FLPMA, BLM has inventoried lands with wilderness characteristics as defined in Section 2 of the Wilderness Act of 1964. Such lands do not, in and of themselves, imply particular land uses or management requirements. However, the alternatives and their effects on these lands are being considered in the WMRNP.

3.11.1 Wilderness

By enacting the California Desert Protection Act of 1994 (P.L. 103-433), Congress designated 69 wilderness areas in southern California and directed that they be administered by the BLM pursuant to the Wilderness Act of 1964 (P.L. 88-577). Seventeen of these areas are within or partially within the planning area. Subsequently, Congress enacted the Omnibus Public Land Management Act of 2009 (P.L. 111-11), which designated three additional BLM-managed wilderness areas in southern California, including the Pinto Mountains Wilderness within the WEMO Planning area. Table 3.11-1 lists these 21 wilderness areas, together with the amount of public land ownership within each. More information on each of these Wilderness Areas can be found at http://www.blm.gov/ca/st/en/prog/wilderness/wa/list_wa.html.

Table 3.11-1. Wilderness Areas within the WEMO Planning Area

Wilderness Area Name	Acres Managed by BLM
Argus Range	18,392
Bighorn Mountain	26,626
Black Mountain	20,929
Bright Star	8,738
Cleghorn Lakes	39,797
Coso Range	52,309
Darwin Falls	8,812
Death Valley	70
El Paso Mountains	24,279
Golden Valley	36,553
Grass Valley	32,835
Joshua Tree	9
Kelso Dunes	15

Table 3.11-1. Wilderness Areas within the WEMO Planning Area

Wilderness Area Name	Acres Managed by BLM
Kiavah	21,910
Mojave	3
Newberry Mountains	27,746
Owens Peak	50,860
Pinto Mountains	24,950
Rodman Mountains	34,239
Sacatar Trail	34,087
San Gorgonio	41,460
Sheephole Valley	33,887
Total = 21 areas	**538,506 acres**

The purpose of wilderness, as defined in section 2(a) of the Wilderness Act, is "...to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas in the United States...leaving no lands designated for preservation and protection in their natural condition...". Further, wilderness is defined in Section 2(c) of the Wilderness Act to be areas "...where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions…".

Section 4(c) of the Wilderness Act prohibits certain uses of wilderness. These prohibitions include commercial enterprise, permanent roads, temporary roads, use of motor vehicles, motorized equipment or motorboats, landing of aircraft, use of other forms of mechanical transport, and structures or installations. There are three classes of exceptions to some or all of the prohibitions. These include private existing rights (e.g., rights associated with a lease for a microwave tower that existed at the time of wilderness designation), actions necessary to meet the minimum requirements for the administration of the area, (e.g., use of motorized equipment to remove hazardous materials), and "Special Provisions" (e.g., livestock grazing that was established prior to designation).

The California Desert Protection Act of 1994 (CDPA), at Title I for BLM Wilderness, provides for motorized vehicle access for (1) fish and wildlife management activities by appropriate State agencies and (2) law enforcement. At Title VII, the CDPA establishes explicit federal water rights, allows access for Indian religious purposes, and provides mandates and procedures for acquiring State and private inholdings.

Wilderness areas are managed according to several internal policies, including BLM Manual MS-6340, Management of Designated Wilderness Areas (BLM 2012), in addition to 43 CFR 6300, Wilderness Management, and Principles for Wilderness Management in the California Desert (Desert Managers Group 1995).

Wilderness areas in the WEMO Planning area include important habitat of several West Mojave species of concern, particularly bighorn sheep, prairie falcon, and golden eagle. The majority of the known golden eagle and prairie falcon nest sites are within wilderness areas.

Five of the 21 wilderness areas are encompassed or partially encompassed within critical tortoise habitat. These include the Rodman Mountains, Newberry Mountains, Black Mountain, Grass Valley, Pinto Mountains, and portions of Golden Valley wilderness areas.

Wilderness Study Areas (WSA)

There are four designated wilderness study areas in the planning area. These include the Cady Mountains WSA, the Soda Mountains WSA, the Sacatar Meadows WSA and the Great Falls Basin WSA.

To fulfill direction from Congress, under Section 603 of FLPMA, the BLM conducted its wilderness review process. This process was carried out by first inventorying public lands to determine which lands had wilderness characteristics, which was done with extensive public involvement. Lands found to have wilderness characteristics were administratively designated as WSA. For the CDCA this was documented in the Wilderness Inventory Final Descriptive Narratives, completed in March 1979 (BLM 1979). That inventory identified 138 Wilderness Study Areas comprising more than 5.5 million acres. Section 603 of FLPMA requires that, until the Congress determines otherwise, the Secretary of Interior shall manage these lands so as not to impair the suitability of these lands for preservation as wilderness.

The CDPA and the Omnibus Public Land Management Act of 2009 designated wilderness based in part on these WSA. The CDPA also released some public lands from WSA status, and identified some existing WSA that would continue to be managed to the non-impairment standard until Congress makes a future decision on these lands. The WEMO Planning area contains approximately 315,230 acres within seven WSA identified by Congress in the CDPA.

All WSA are managed so not to impair the suitability of the area for preservation as wilderness and prevent unnecessary or undue degradation, in accordance with the BLM Wilderness Study Area Manual MS-6330 (BLM 2012), and will continue to be managed in that manner until Congress either designates them as wilderness or releases them for other uses.

As with wilderness, allowable pre-existing use as described in FLPMA, only apply to grazing, mining, and mineral uses, or as specifically identified in the legislation, and do not include other uses such as recreational activities. Although most recreational activities (including hiking, horseback riding, fishing, hunting and trapping, camping, and other primitive forms of recreation) are allowed in WSA, some activities may be prohibited or restricted if they do not meet the non-impairment standard or one of the exceptions.

While access on primitive routes or ways in WSA is allowed, BLM policy does not provide for motorized use of these routes unless continuous use and designation of that use has been established from 1976 onward. The result of the policy is that routes, once eliminated from the travel network, cannot be established in the network again until Congress releases the land for other uses.

WSA Guidance directs BLM to comply with the wilderness non-impairment mandate (FLPMA Section 603(c)). BLM must monitor and regulate the activities of off-highway vehicles (OHVs) in WSA to assure that their use does not compromise these areas by impairing their suitability for

designation as wilderness. The BLM's Off Road Vehicle Regulations (43 CFR 8342.1) require that BLM establish off-road vehicle designations of areas and routes that meet the non-impairment mandate. BLM's policy is that cross-country vehicle use in WSA does cause the impairment of wilderness suitability. As described in BLM Manual 1626—Travel and Transportation Manual, "Any motorized/mechanized linear transportation feature located within [WSA] will be identified in a transportation inventory as a motorized/mechanized 'primitive route'...Primitive routes will not be made a part of the transportation system, classified as a transportation asset, or entered into the Facility Asset Management System (FAMS) unless one of the following conditions is met:

A. The routes are designated as non-motorized and non-mechanized trails, or

B. Congress releases the WSA from Wilderness consideration."

Motorized/mechanized primitive routes may be signed only to the extent necessary to prevent resource damage or users getting lost; they may not be assigned names or numbers that would appear to create a de facto route system.

Though motorized and mechanical transport may be permitted to continue along existing primitive routes, "closed" designations may be appropriate for WSA, or portions of WSA, where LUP planning goals are to provide primitive recreational opportunities, or where needed for the protection of an identified natural resource.

3.11.2 Lands Inventoried for Wilderness Characteristics

In accordance with Section 201 of FLPMA, the BLM is required to prepare and maintain on a continuing basis an inventory of public lands and their resources and other values. Per Section 603 of FLPMA, this includes lands with wilderness characteristics as defined in Section 2 of the Wilderness Act of 1964. Such lands do not, in and of themselves, imply particular land uses. All lands that are not currently designated as wilderness or WSAs are assessed during the LUP process to determine if they possess one or more wilderness characteristics. These characteristics generally include naturalness, outstanding opportunities for solitude, and outstanding opportunities for primitive and unconfined recreation.

Considering wilderness characteristics in the land use planning process may result in several outcomes related to land use, including, but not limited to: (1) emphasizing other multiple uses as a priority over protecting wilderness characteristics; (2) emphasizing other multiple uses while applying management restrictions (conditions of use, mitigation measures) to reduce impacts to wilderness characteristics; (3) the protection of wilderness characteristics as a priority over other multiple uses. This process is described by BLM policy in Manual MS-6320, Considering Lands with Wilderness Characteristics in the Land Use Planning Process, and BLM Land Use Planning Handbook, H-1601-1, Appendix C, (K) Wilderness Characteristics.

Management of lands with wilderness characteristics is part of BLM's multiple-use mandate, and is recognized within the spectrum of resource values and uses within the WEMO Planning Area. Lands with wilderness characteristics are defined for this planning effort as areas:

- Having been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable.

- Having outstanding opportunities for solitude or a primitive and unconfined type of recreation.
- Potentially containing ecological, geological, or other features of scientific, educational, scenic, or historical value.

These lands may be managed for the use and enjoyment of area visitors and may be devoted to the public purposes of recreation, scenic, scientific, educational, conservation, and historical use. In addition, they could augment multiple-use management of adjacent and nearby lands through the protection of watersheds and water yield, wildlife habitat, natural plant communities, and similar natural values.

The process for these inventories is described in BLM Manual MS-6310, Conducting Wilderness Characteristics Inventory on BLM Lands. In addition to review and maintenance of existing lands with wilderness characteristics data, the inventory incorporates new data concerning resource conditions for lands previously determined not to possess wilderness characteristics; newly acquired lands; and citizen information (public nominations of the lands with wilderness characteristics) meeting the minimum standard for further review, to establish an updated, current inventory of lands with wilderness characteristics.

To address lands inventoried for wilderness characteristics, the BLM is updating its inventory for the CDCA, including lands within the West Mojave Planning area. The current inventory, summarized in Table 3.11-2, includes 87 units totaling more than 4 million acres. This comprises 44 percent of the WEMO Planning area. Within the WEMO SEIS the BLM is not proposing to determine how to manage lands inventoried for wilderness characteristics, this decision is outside the scope of this SEIS.

Table 3.11-2. Lands Inventoried for Wilderness Characteristics

Unit Number	Acres
1	6181.7
1027	656.3
1053	10.2
124	2.2
129	5.7
130	23303.1
131	164617.6
132	60251.1
132A	28551.3
132B	34849.3
133	3876.9
142	65755
157	36579.2
157A	2217.1
157B	1064
158	67450.8
159	25273.2

Table 3.11-2. Lands Inventoried for Wilderness Characteristics

Unit Number	Acres
159A	3787.3
160	15280.5
160A	24811.2
160B	15286.1
160C	880.7
161	4435.2
162	5016.7
163	31501.3
164	86803.9
165	19291.7
165A	17540
166	3951.2
167	23055.8
168	74449.5
169	18255.9
170	12305.6
171	13716.8
172	18233.7
173	19150
173A	16683.1
174	21745.7
175	11928.4
176	12953.3
177	5578.9
178	7777.7
179	33252.4
179A	58063.4
180	43100.3
181	19425.5
182	62398.7
182A	13254.3
183	39801.4
184	67463.4
185	33875.9
185A	27512.5
186	116675
186A	24482.8
186C	45572.7

Table 3.11-2. Lands Inventoried for Wilderness Characteristics

Unit Number	Acres
187	1029.6
188	47209.7
189	92368.1
190	35938.2
191	19322.3
192	6525.9
192A	3973.5
193	30835.2
194	18868.5
195	72121.9
196	8651
197	24972.3
189	67135.3
199	11125.9
200	19492.6
201	37903
202	8644.9
20.3	27345.9
204	28859.2
205	42870.2
206	66547.6
207	49144.2
207A	18952.7
208	15217.7
209	40656.3
210	51163.5
210A	27765.7
211	10179
212	18376.37
213	27858.9
214	26708
215	65325.8
216	147592.1
217	183143.1
217A	10969
217B	21896.6
218	94501.4
218A	819.6

Table 3.11-2. Lands Inventoried for Wilderness Characteristics

Unit Number	Acres
221A	1596.5
242	123610
243	69225.5
250	62.8
251	297747.9
251A	464.2
252	91104.4
252A	23391.7
253	27686.8
254	24055
254A	17612.2
255	24738.8
255A	2.3
256	4.7
3	3521.9
301	87.4
301A	0.2
302	209.9
304	81771.4
304A	25798.1
305	36126.2
335	96789.7
339A	6587.2
339B	20456.1
Total Number of Units = 87	Total Acres = 4044604.87

3.11.3 Areas of Critical Environmental Concern and Desert Wildlife Management Areas

Thirty-one Areas of Critical Environmental Concern (ACECs) wholly or partially within the WEMO Planning area were established by the BLM through the CDCA Plan and amendments prior to 2005. Of these, the Darwin Falls ACEC was later incorporated into Death Valley National Park.

The 2006 WEMO Plan made numerous changes to the system of land designations for protection of resources in the WEMO Planning area. Many of these overlapped with each other. The 2006 WEMO Plan established four Desert Wildlife Management Areas (DWMAs), totaling 1,523,936 acres for the protection of the desert tortoise, and four conservation areas totaling 1,726,712 acres for protection of other species. In addition, the 2006 WEMO Plan made modifications to MUC classifications, boundaries, and management objectives of the existing ACECs, and acted as an amended management plan for 25 of these ACECs to incorporate provisions to conserve protected species. In addition, the Plan also brought forward from existing ACEC Plans, where

they existed, or adopted modified route networks for each of the areas. Finally, the 2006 WEMO Plan established 10 new ACECs within the planning area. The current list of ACECs and conservation areas, and their current acreages, are provided in Table 3.11-3.

Table 3.11-3. Acreage of ACECs and Conservation Areas in the WEMO Planning Area

ACEC/Conservation Area Name	Total Acreage
Afton Canyon	8,830
Amboy Crater	639
Barstow Woolly Sunflower	19,079
Bedrock Springs	786
Bendires Thrasher Conservation Area	11,719
Big Morongo Canyon	24,934
Black Mountain	51,261
Calico Early Man Site	834
Carbonate Endemic Plants Research Natural Area	4,380
Christmas Canyon	3,445
Coolgardie Mesa	9,837
Cronese Basin	8,469
Desert Tortoise Research Natural Area	22,230
Fossil Falls	1,630
Great Falls Basin	9,539
Harper Dry Lake	485
Jawbone/Butterbredt	147,832
Juniper Flats	2,387
Kelso Creek Monkeyflower Conservation Area	1,865
Last Chance Canyon	5,135
Manix	2,907
Middle Knob	17,768
Mohave Monkeyflower	36,500
Mojave Fishhook Cactus	637
Mojave Fringe-Toed Lizard Conservation Area	22,173
Parish's Phacelia Conservation Area	512
Pisgah Crater	18,096
Rainbow Basin	4,103
Red Mountain Spring	718
Rodman Mountains Cultural Area	6,208
Rose Springs	838
Sand Canyon	2,583
Short Canyon	754
Soggy Dry Lake	184
Steam Well	41
Trona Pinnacles	4,058
Upper Johnson Valley Yucca Rings	331
Western Rand Mountains	31,102

Table 3.11-3. Acreage of ACECs and Conservation Areas in the WEMO Planning Area

ACEC/Conservation Area Name	Total Acreage
West Paradise	239
Whitewater Canyon	13,973

3.11.3.1 ACECs Designated Prior to 2006 WEMO Plan

Information on these ACECs is summarized below. A CD of the complete ACEC Managnement Plans for each of these ACECs is available from the California Desert District Office.

Afton Canyon

This ACEC protects a sensitive Mojave River riparian community and the scenic canyon in which it is located. Originally 4,726 acres, in 2006 the WEMO Plan expanded the ACEC southward. An Afton Canyon Natural Area management plan (1989) was prepared in cooperation with the CDFW under the Sikes Act and covers a larger area than the ACEC. The plan protects the ACEC and the adjacent desert habitat in the Cady Mountains, which is occupied habitat for bighorn sheep and contains nest sites for prairie falcon and golden eagle. Visitor facilities include two campgrounds, an equestrian campground, the Mojave Road, and interpretive signs and kiosks.

The 2006 WEMO Plan adopted the 1989 management plan recommendations, amending the MUC Class from M to L on 1,225 acres. The plan also adopted the provisions of the WEMO Plan for protection of bighorn sheep, prairie falcon, golden eagle, vermilion flycatcher, yellow-breasted chat, yellow warbler, summer tanager, least Bell's vireo, western pond turtle, desert tortoise, Mojave fringe-toed lizard, and all species of bats.

Amboy Crater

BLM designated the Amboy Crater as an ACEC within the Amboy Crater National Natural Landmark in 1987.

Barstow Woolly Sunflower

BLM established a botanical ACEC northeast of Kramer Junction to protect the Barstow woolly sunflower. Although the area protects a relatively large population of this species, the ACEC represents only a small proportion of the overall range, which is limited to the western Mojave Desert. The desert tortoise and Mohave ground squirrel are also found within the ACEC. The State of California owns nine sections of land to the east and west, which CDFW manages for protection of desert plants and animals.

The 2006 WEMO Plan adjusted the boundary to encompass additional public lands northwest of Kramer Junction.

Bedrock Springs

Bedrock Springs ACEC, located at the edge of the Golden Valley Wilderness, was established by the CDCA Plan to protect prehistoric values.

The 2006 WEMO Plan included this ACEC within the Mohave Ground Squirrel Conservation Area, and applied all conservation measures to the ACEC.

Big Morongo Canyon

BLM established the Big Morongo Canyon ACEC to protect habitat qualities for least Bell's vireo and triple-ribbed milkvetch. The Big Morongo Canyon ACEC is managed as a wildlife reserve, with emphasis on strict protection of the flora and fauna. This desert oasis is known internationally for its bird diversity, and opportunities are provided for wildlife viewing and photography, including boardwalk trails, interpretive displays and brochures. The ACEC was established in the 1980 CDCA Plan. Expansion of the ACEC in 1996 created a habitat linkage between the Little San Bernardino Mountains and the San Bernardino Mountains, though several private parcels remain to be acquired.

Black Mountain

The Black Mountain ACEC is one of the largest areas in the western Mojave Desert to protect the prehistoric and Native American values of this area northwest of Barstow. A management plan was approved in 1988. The ACEC lies entirely within the Superior-Cronese and Fremont-Kramer DWMAs. The southeastern half is within the Black Mountain Wilderness. The ACEC includes critical habitat for the desert tortoise, and known occupied habitat for the Mojave ground squirrel, LeConte's thrasher, desert cymopterus, and Barstow woolly sunflower. Nest sites are present for golden eagle and prairie falcon.

The 2006 WEMO Plan included amending this ACEC plan to include species protection as a goal.

Calico Early Man Site

This National Register Property was established as an ACEC in 1980, and a management plan was prepared in 1984. The plan designated a vehicle route network and specified ways to protect the evidence of ancient human occupation.

The 2006 WEMO Plan modified the ACEC Management Plan to require that all provisions for surveys, minimization, mitigation, and compensation for adverse impacts to biological resources that apply to the Superior-Cronese DWMA would also apply to this ACEC.

Christmas Canyon

The Christmas Canyon ACEC protects prehistoric values. Most of the ACEC lies within the Spangler Hills Open Area in San Bernardino County. The 1988 ACEC management plan prescribed ways that the archaeological resources could be protected within an area open to recreational vehicle use.

In the 2006 WEMO Plan, a small portion of the southern edge of this ACEC was included within the Mohave Ground Squirrel Conservation Area. All conservation measures associated with the Conservation Area apply to the ACEC.

Cronese Basin

The BLM designated the Cronese Lakes, north of Interstate 15 between Barstow and Baker, as an ACEC to protect valuable cultural and natural resources. Ephemeral wetlands are present on

the lakes, which serve as stopover points for migratory waterbirds and nesting sites for many species during very wet years. Mesquite hummocks and desert willow washes add to the biological importance, and the dunes and sand sheets are occupied habitat for the Mojave fringe-toed lizard. The desert tortoise is found in low densities. A management plan was published in 1985.

In the 2006 WEMO Plan, the southeastern portion of this ACEC was included within the Superior-Cronese DWMA. The 2006 WEMO Plan amended the ACEC Management Plan to incorporate protection of blowsand areas for the Mojave fringe-toed lizard.

Desert Tortoise Research Natural Area

The CDCA Plan of 1980 designated lands north of California City in Kern County as an ACEC and a Research Natural Area. A management plan for the ACEC, prepared under authority of the Sikes Act, was approved in 1988. The ACEC is jointly managed by the BLM, CDFW and the Desert Tortoise Preserve Committee, a non–profit group established to acquire and manage lands for protection of the desert tortoise.

The 2006 WEMO Plan expanded the boundaries of this area to include lands acquired by the Desert Tortoise Preserve Committee. The ACEC was also included within the Mohave Ground Squirrel Conservation Area and the Fremont-Kramer DWMA.

Fossil Falls

The Fossil Falls ACEC was established in 1980 to protect prehistoric values. A management plan was approved in 1986.

The 2006 WEMO Plan amended the management plan for this ACEC by recognizing provisions applicable to the Mohave Ground Squirrel Conservation Area.

Great Falls Basin

The Great Falls Basin ACEC management plan was prepared in 1987 in cooperation with the CDFW under the Sikes Act. The ACEC adjoins the Indian Joe Canyon Ecological Reserve and the northern portion is within the Argus Range Wilderness. The southern portion is within a BLM wilderness study area. The western boundary is contiguous with the China Lake Naval Air Weapons Station. The ACEC protects unique and valuable wildlife and scenic resources, particularly the dozens of seeps and springs that serve as habitat for the threatened Inyo California towhee. Designated critical habitat for the towhee is present within the ACEC. In addition, large populations of quail and chuckar are present, as is a remnant population of bighorn sheep. Raptors nesting within the ACEC include golden eagle, prairie falcon, and long-eared owl. Potential habitat exists for the Panamint alligator lizard.

The 2006 WEMO Plan amended the management plan to prohibit travel on certain routes that were previously designated as open. The area was included within the Mohave Ground Squirrel Conservation Area and the Argus Range Key Raptor Area.

Harper Dry Lake

The ACEC was established to protect the remnant marshes at the southwestern edge of Harper Dry Lake. The marsh and alkali wetland community bordering Harper Dry Lake hold potential for discovery of several rare and restricted-range plant species. The playa bordering the marshes

supported nesting Western snowy plovers in the past, and surveys conducted in 2001 found these birds to be present and probably nesting. Harper Dry Lake is an important area for the conservation of Western snowy plover nesting habitat. Harper Dry Lake is recognized as a Key Raptor Area by the BLM, which has designated 223 such areas nationwide. Key Raptor Areas are places known to be significant habitats for selected species of birds of prey, and Harper Dry Lake is one of seven Key Raptor Areas in the Mojave Desert. The species known to utilize the habitat at Harper Dry Lake are northern harrier, short-eared owl, ferruginous hawk, and long-eared owl. Harper Dry Lake has been improved as a Watchable Wildlife site, a program to provide access and facilities to visitors for birdwatching, photography and passive recreation. Arrangements are now being made to supply surface water to the remnant marsh, and interpretive kiosks, restrooms, and trails have been installed.

The 2006 WEMO Plan adjusted the boundary of this ACEC by adding 110 acres of the Watchable Wildlife Site on the southern boundary and deleting 110 acres of barren lakebed on the northern boundary. The plan also included revised management objectives for conservation of plant and animal species, including the Western snowy plover and several restricted-range alkali wetland species. The area was also recognized as a Key Raptor Area.

Jawbone/Butterbredt

The 1982 Sikes Act Plan for Jawbone/Butterbredt ACEC addressed the Sierra/Mojave/Tehachapi Ecotone Wildlife Habitat Management Area, a designated "special area" in the CDCA Plan. The ACEC plan incorporated all of the Rudnick Common Grazing Allotment and the vehicle management boundary agreement between the BLM and the Rudnick Estate Trust. Motorized vehicle routes of travel were designated within the ACEC, which includes both designated wilderness and the Jawbone Canyon and Dove Springs Open Areas. The Pacific Crest Trail crosses the ACEC as well. The ACEC was established to manage and protect significant cultural and wildlife values of this transition zone between the mountains and the northwestern Mojave Desert. Among the wildlife habitats present are Butterbredt Springs, an important migratory bird stopover site, habitat for the yellow-eared pocket mouse in Kelso Valley, and the raptor and vulture migratory corridor between the Kern River Valley and the Mojave River. Nearly the entire range of a West Mojave endemic, the Kelso Creek monkeyflower, is located within the ACEC.

In 1995 Jawbone Station Visitor Center opened its doors to the public to serve as a public information and outreach center to those coming to the Jawbone/Butterbredt ACEC and the surroundings public lands. The facility's goal is to educate the public about the agency, its mission, the sensitive resources in the area, and responsible use of the public lands.

The 2006 WEMO Plan added protection of the Bendire's thrasher, Mohave ground squirrel, yellow-eared pocket mouse, and Kelso Creek monkeyflower as specific objectives of the ACEC management plan. Three new conservation areas, including the Mohave Ground Squirrel, Kelso Creek Monkeyflower, and Bendire's Thrasher Conservation Areas, were also established within the ACEC.

Since the approval of the 2006 WEMO Plan, an intensive effort has been underway to implement the designated route system and manage OHV use within the Jawbone/Butterbredt ACEC and surrounding areas. The efforts have included signing and resigning all designated open routes as needed, regular patrols and monitoring in the Jawbone area, installation of additional information

kiosks at main entry portals to the management area, building boundary fences around the Dove Springs Open Area and along the northern boundary of the Jawbone Canyon Open Area, and continued focused restoration efforts.

For the last eight years BLM has partnered with a local non-profit, the Friends of Jawbone (FOJ), to assist with management plan implementation efforts in the Jawbone area. The FOJ is able to maintain a staff of between eight and twenty individuals for field work crews, without funding from BLM. These crew members take on many different tasks including regular monitoring patrols, replacement of route signs, trash pickup, and implementation of approved habitat restoration activities, route and trail maintenance, and recreation facility maintenance.

Juniper Flats

An ACEC was established for the Juniper Flats Cultural Area in 1980, and a management plan was prepared in 1988. The foothill area south of Apple Valley containing springs and riparian habitat in a dense stand of junipers was an important Native American habitation and special use site. Juniper Flats also provides important habitat for the San Diego horned lizard and the gray vireo. The Willow fire in 2000 burned the entire ACEC, leading to a temporary closure of the area until vegetative recovery had begun. Juniper Flats is an important equestrian riding area and provides access to the Deep Creek hot springs in the San Bernardino National Forest.

The 2006 WEMO Plan included construction of a multi-use trailhead to allow parking and staging for equestrian users.

Last Chance Canyon

The CDCA Plan designated Last Chance Canyon in the El Paso Mountains as an ACEC in 1980. A Plan Amendment in 1984 adjusted the boundaries to include additional prehistoric sites. This amendment implemented a recommendation of the ACEC management plan, which was completed in 1982. The archaeological sites are part of a larger archaeological district placed on the National Register of Historic Places in 1971.

The 2006 WEMO Plan adopted an interim route network until a revised motorized vehicle access network could be established for the El Paso Mountains. The ACEC was also included within the Mohave Ground Squirrel Conservation Area.

Manix

The Manix ACEC, located 20 miles northeast of Barstow along the Mojave River, was established in 1990 to protect paleontological and cultural resources. This site contains blowsand habitat for the Mojave fringe-toed lizard.

The 2006 WEMO Plan designated public lands along the Mojave River as a conservation area for the Mojave fringe-toed lizard.

Mojave Fishhook Cactus

A CDCA Plan Amendment established the Mojave Fishhook Cactus ACEC in 1984. The ACEC is composed of two separate parcels in the Brisbane Valley. The purpose of the ACEC is to protect the yellow-spined form of the Mojave fishhook cactus. Subsequent studies have shown that this area may be important to the Mohave monkeyflower as well. A management plan was completed in 1990, which designated motorized vehicle routes within the ACEC.

The 2006 WEMO Plan amended the MUC Class from U to L for 628 acres. The plan also designated Brisbane Valley as a tortoise Special Review Area.

Rainbow Basin

The Rainbow Basin ACEC, established in 1980, lies ten miles north of Barstow and includes two campgrounds, a scenic loop drive, hiking trails, and an interpretive trail. The area is popular with visitors that come to see the colored geological formations. The ACEC protects two nest sites for the prairie falcon. The ACEC management plan, completed in 1991, addressed both the ACEC and a larger surrounding area where route designation was accomplished and recommendations were made for campground and trail improvements and closure to target shooting. Hunting is allowed in the ACEC.

This area is part of the Coolgardie Mesa conservation area and ACEC, the Mohave Ground Squirrel Conservation Area, and the Superior-Cronese DWMA. The 2006 WEMO Plan closed routes that served as links to regional routes in order to reduce disturbance to the Lane Mountain milkvetch. Objectives of the management plan were also revised to include protections for the Lane Mountain milkvetch and prairie falcon.

Red Mountain Spring

This area was designated as an ACEC by the CDCA Plan to protect prehistoric values. A 1982 CDCA Plan Amendment listed this area as closed to vehicle travel. A management plan was completed in 1987. This ACEC was included in the route designation inventory and designation process for the Red Mountain subregion.

The 2006 WEMO Plan formally changed the name of this ACEC from Squaw Spring to Red Mountain Spring. The ACEC was included in the Mohave Ground Squirrel Conservation Area and the Fremont-Kramer DWMA.

Rodman Mountains Cultural Area

A 1988 CDCA Plan Amendment established this ACEC to protect cultural resources. Most of the ACEC is within the Rodman Mountains Wilderness. Portions outside the wilderness are part of the Ord-Rodman route designation subregion. The site contains raptor nests and limited desert tortoise habitat.

The 2006 WEMO Plan incorporated most of the ACEC into the Ord-Rodman DWMA.

Rose Springs

An area surrounding Rose Springs in Inyo County was designated as an ACEC by the CDCA Plan to protect prehistoric values. Access is limited by a gate, which has been vandalized in the past. A management plan was prepared in 1985 that recommended closure of the ACEC to motorized vehicles. Access to the ACEC is available via a transmission line road and the Los Angeles Aqueduct road.

The 2006 WEMO Plan incorporated this area into the Mohave Ground Squirrel Conservation Area.

Sand Canyon

The Sand Canyon ACEC was established to protect riparian habitat and wildlife in a canyon on the eastern slope of the Sierra Nevada Mountains. The ACEC is one of the most diverse areas in the West Mojave for species of small mammals and supports a wide variety of reptiles and birds. Two species nearly endemic to the West Mojave are found within the ACEC: the Ninemile Canyon phacelia and the yellow-eared pocket mouse. Riparian habitat in the ACEC is important to migratory birds, including the willow flycatcher. An ACEC management plan was prepared in 1989.

The 2006 WEMO Plan modified the ACEC management plan to incorporate protections for the yellow-eared pocket mouse.

Short Canyon

The Short Canyon ACEC was established by an amendment to the CDCA Plan in 1988. Most of the ACEC lies within the Owens Peak Wilderness. The purpose of the ACEC is to protect the unusual vegetation and diverse flora. Short Canyon is known to support occurrences of Charlotte's phacelia (*Phacelia nashiana*), a limited-range plant whose distribution falls almost entirely within the western Mojave Desert. In addition, a significant population of the state-listed Mojave tarplant (*Deinandra [Hemizonia] mohavensis*) was detected in the canyon in 1998. A management plan was prepared in 1990. The primary management action was to exclude grazing from the ACEC, which has been implemented through fencing and placement of cattle guards.

The 2006 WEMO Plan modified the ACEC management plan to incorporate protections for the Charlotte's phacelia and Mojave tarplant.

Soggy Dry Lake

BLM established the Soggy Dry Lake ACEC in the 1980 CDCA Plan. The Soggy Dry Lake Creosote Rings Preserve was established to protect ancient vegetation in the Fry Valley, where creosote bushes have developed as clonal rings, attaining an age of up to 11,700 years. A management plan for this ACEC was approved in 1982. The CDFW owns 488 acres adjacent to the ACEC, managed as the King Clone Ecological Reserve.

Steam Well

This ACEC protects historic and prehistoric values within the Golden Valley Wilderness in San Bernardino County.

The 2006 WEMO Plan incorporated this area into the Mohave Ground Squirrel Conservation Area.

Trona Pinnacles

The 1989 management plan for the Trona Pinnacles ACEC focused on protection of the outstanding scenery and geological features of this area, which is located ten miles south of Trona. The site is used for commercial filming and sightseeing. At least one prairie falcon nest site was reported within the ACEC, but falcons have not been recorded there for the past ten years.

Upper Johnson Valley Yucca Rings

The CDCA Plan of 1980 established this ACEC for the unique clonal yucca rings found near the Fry Mountains within the Johnson Valley Open Area. The yucca plants are believed to have grown in a manner similar to the ancient creosote rings near Soggy Dry Lake and represent a stable, old plant community. A management plan was completed in 1982, and a Plan Amendment in 1984 adjusted the boundary along parcel lines. The ACEC Management Plan was developed to provide for continued use to meet the recreational needs of the Johnson Valley Open Area while protecting the sensitive resources. This area is within an OHV Open Area, and is completely fenced, so it would not be affected by designation of the route network.

Western Rand Mountains

The Western Rand Mountains ACEC (RMMA) formerly supported high densities of desert tortoises, though tortoise numbers have declined substantially from historical levels. The ACEC is believed to support the Mohave ground squirrel, and is known to harbor burrowing owls and LeConte's thrasher. A Rand Mountains Fremont Valley Management Plan was completed in 1993, and adopted in 1994. This plan, which also addressed surrounding lands such as Koehn Lake and lands to the northeast, was prepared in cooperation with the CDFW under authority of the Sikes Act. The plan received a "no jeopardy" Biological Opinion from the USFWS. The plan recommended several amendments to the BLM's CDCA Plan:

- Expand the Western Rand Mountains ACEC by 13,120 acres
- Change Class M lands in the ACEC expansion and adjacent alluvial fan areas to Class L.
- Withdraw 32,590 acres within the RMMA from mineral location and entry. The 6,090-acre Koehn Lake and an additional 8,320 acres within the management area will remain as class M and open to mineral entry.
- Change the RMMA OHV network from an "existing routes" system to a designated trail system that was mapped and marked in the field. The network of available routes of travel adopted in the plan reduced the network from the existing network of 764 miles down to 129 miles of designated Open routes..
- Categorize portions of the RMMA as Desert Tortoise Category I habitat. These lands lie on both sides of the Randsburg-Mojave Road southwest of Red Mountain and are shown on Illustration #9 in the 1993 management plan.

Implementation of the Rand Mountains Fremont Valley Management Plan related to the management of off-highway vehicle use within the area has included:

- Mapping, marking, and maintaining of the designated trail network with brown numbered post to identify the trail system.
- Installing a 17-mile long fence on the southern boundary of the RMMA with portals allowing entry only on the designated trail system.
- Installing fences along both side of designated routes R5 and R50 within the ACEC to prevent off route travel by motorized vehicle.
- Installing fencing along the northern boundary of ACEC to control access into the area. Through the connection of the boundary fence lines and the R5 and R50 fence lines about

5,700 acres of desert tortoise habitat have been encircled and protected from uncontrolled vehicle trespass.

- Installing 12 information kiosks around the management area with maps, rules, and information brochures for the public.
- Performing active desert restoration on 50 miles of closed trails at roughly 700 sites, covering 32 acres of desert tortoise habitat restoration. Active restoration efforts have included ripping, barricading, vertical mulching, and replanting areas with desert vegetation.
- Performing outreach efforts on major holiday weekends during the use season to inform visitors of the vehicle-use regulations within the management area.
- Conducting patrols of the area by both Law Enforcement staff and Resource staff to make public contacts about the management area. The Rand Mountains Fremont Valley Management Plan proposed a goal of ranger patrols eight hours per week plus eight hours each weekend from March 1 to June 30, September 1 to November 1, and holiday weekends. Ranger staffing levels were not adequate to consistently to so until 2002. In 2002, a ranger was specifically assigned primary patrol responsibilities for the Rand Mountains, Fremont Valley, and the Desert Tortoise Natural Area in order to facilitate implementation of other plan goals.

The 2006 WEMO Plan adopted the recommendations of the management plan, including adjustment of the boundary; amending the MUC Class from M to L for 34,835 acres; adopting the route network; designating Category 1 tortoise habitat as DWMA; implementing mineral withdrawal; and implementing an OHV-use permit program. The adoption of the route network was vacated by the Court in its Remedy Order of 2011, but the other actions were kept in place.

Since the adoption of the 2006 WEMO Plan, the first phase of a permit system has begun. The permit is required for all persons desiring to operate a motor vehicle within RMMA, as specified in the 2006 WEMO Plan.

Whitewater Canyon

BLM established the Whitewater Canyon ACEC in the 1980 CDCA Plan. The Whitewater Canyon ACEC straddles the WEMO Planning area boundary, with the upper elevations lying within the planning area. All of the ACEC within the WEMO Planning area lies within the San Gorgonio Wilderness. Wildlife protection is a goal of the ACEC Plan, and the ACEC protects a substantial herd of bighorn sheep and harbors golden eagle and prairie falcon nests. Significant riparian areas are found in lower Whitewater Canyon, and these are known to support several species of riparian birds as well as the arroyo toad. Potential habitat exists for the triple-ribbed milkvetch within upper Whitewater Canyon. The Pacific Crest Trail and the California Riding and Hiking Trail cross the ACEC.

3.11.3.2 New ACECs Designated in the 2006 WEMO Plan

The 2006 WEMO Plan established 10 new ACECs within the planning area, as discussed below.

Bendire's Thrasher Conservation Area

The conservation strategy for Bendire's thrasher is based on conservation of habitat on public lands where thrashers were seen in 2001 or were abundant in the mid-1980s and conditions appear unchanged. Four public land conservation areas were established. These are within Joshua Tree National Park (106,710 acres), the Jawbone/Butterbredt ACEC (7,678 acres), northern Lucerne Valley (9,805 acres), and Coolgardie Mesa (7,646 acres).

Carbonate Endemic Plants Research Natural Area

BLM designated public lands within an area east of Highway 18 in the foothills of the San Bernardino Mountains as a Research Natural Area and manages the land as an ACEC to protect four federally listed and one unlisted species of plants, as well as the San Diego horned lizard, gray vireo, and bighorn sheep.

Coolgardie Mesa

The Coolgardie Mesa ACEC lies within the Superior-Cronese DWMA and contains conservation areas for the desert tortoise, Mohave ground squirrel, Bendire's thrasher, and Lane Mountain milkvetch. The ACEC serves as a multispecies reserve for these four species as well as the Barstow Woolly sunflower.

Kelso Creek Monkeyflower Conservation Area

The Kelso Creek Monkeyflower Conservation Area was established by the 2006 WEMO Plan. The plan included conservation prescriptions such as maintaining regional rangeland health standards, requiring botanical surveys for proposed projects, and monitoring of habitat.

Middle Knob

The BLM designated the Middle Knob area as a new ACEC in the 2006 WEMO Plan. Management of this area includes requirements for avoidance of all listed species of plants and animals, designation of vehicle routes of travel to ensure compatibility with the purposes of the ACEC and with the Pacific Crest Trail, and prohibition of new wind energy development on public lands. Surveys for flax-like monardella in suitable habitat would be required for any ground-disturbing projects in the Middle Knob ACEC.

Mohave Monkeyflower

Conservation of Mojave monkeyflower is based on establishment of two reserve areas that include the majority of the known populations. These reserves, including southern Brisbane Valley and an area near Daggett Ridge, were designated as an ACEC in the 2006 WEMO Plan. The plan amended the MUC Class from U to L for 10,448 acres, and amended the MUC Class from M to L for 25,351 acres. Part of the ACEC lies within the Ord-Rodman DWMA.

Mojave Fringe-Toed Lizard Conservation Area

Two separate areas were designated as conservation areas for the Mojave fringe-toed lizard and are managed as an ACEC. The ACEC is found along the Mojave River east of Barstow and in and adjacent to the Sheephole Wilderness east of Twentynine Palms. Three other ACECs (Pisgah, Manix, and Cronese Lakes) serve to protect the Mojave fringe-toed lizard as well.

Parish's Phacelia Conservation Area

BLM established a new ACEC for conservation of Parish's phacelia northeast of Barstow along the Manix Trail. The plan designated 898 acres as a conservation area for this species of which 386 acres (43%) are located on private land and 512 acres (57%) are located on BLM land.

Pisgah Crater

BLM designated a portion of the Pisgah Crater and surrounding area as an ACEC in the 2006 WEMO Plan. This crater and lava flow, an uncommon landform in the western Mojave Desert, was previously designated as a Research Natural Area. The Pisgah Crater contains lava tubes of several types, some of which are used as bat roosts. The mix of dark lava and white sand has resulted in interesting color adaptations in the reptiles and small mammal fauna, called cryptic coloration or background color matching. These white and dark forms occurring together represent a location of high genetic biodiversity within species. The ACEC includes areas where populations of crucifixion thorn, white-margined beardtongue, sand linanthus, and Mojave fringe-toed lizard occur. Desert tortoise also occurs in the area.

West Paradise

The West Paradise ACEC lies within the Superior-Cronese DWMA and contains conservation areas for the desert tortoise, Mohave ground squirrel, and Lane Mountain milkvetch. The ACEC serves as a multispecies reserve for these three species.

3.11.3.3 DWMAs Designated in the 2006 WEMO Plan

The 2006 WEMO Plan established four Desert Wildlife Management Areas (DWMAs), totaling 1,523,936 acres for the protection of the desert tortoise. The boundaries of these DWMAs correspond to the general boundaries identified by the Desert Tortoise (Mojave Population) Recovery Plan (Recovery Plan): the Fremont-Kramer (803 square miles) and Superior-Cronese (1,003 square miles) DWMAs, which are adjacent; the Ord-Rodman DWMA (392 square miles); and the Pinto DWMA (183 square miles). Tortoise DWMAs are managed for tortoise conservation and recovery until which time the tortoise may be delisted as per criteria given in the Recovery Plan.

Public lands administered by the BLM within Tortoise DWMAs are designated as ACECs. The 2006 WEMO Plan serves as the ACEC management plan for the four Tortoise DWMAs. Existing ACECs that lie within the boundary of the Tortoise DWMAs ("included ACECs") are still maintained for the purpose of their original designation, unless specifically deleted by the 2006 WEMO Plan. Management provisions for resource protection in the Tortoise DWMAs augment, rather than replace, the pre-existing ACEC provisions.

The 2006 WEMO Plan also established the Mohave Ground Squirrel (MGS) Conservation Area comprising 1,726,712 acres for the long-term survival and protection of the MGS. The MGS Conservation Area includes portions of the Fremont-Kramer and Superior-Cronese Tortoise DWMAs, and additional, essential habitats located west and north of the two tortoise DWMAs.

3.11.4 Eligible Wild and Scenic River

Appendix F of the 2005 WEMO Final EIS included an analysis of the eligibility of the Mojave River for inclusion in the National Wild and Scenic River System (NWSRS) per Section 5(d) of the Wild and Scenic Rivers Act of 1968 (16 United States Code1271-1287, *et seq*). The Mojave River is the focal hydrologic system of the central portion of the West Mojave Desert planning area. It is a closed groundwater basin and the free-flowing segments of the Mojave River are largely subterranean. It begins its northerly, largely underground flow near Hesperia at the boundary of the San Bernardino National Forest and the CDCA. The two primary forks of the upper watershed, Deep Creek and the West Fork of the Mojave River, converge at the Mojave Forks Dam to form the mainstem of the Mojave River.

The eligibility report determined that a 22.5 mile long reach of the river near Afton Canyon were eligible for inclusion in the NWSRS. The report recommended a classification of "Recreational" for this segment. The area was cited for its outstanding and remarkable scenic, geologic, recreational, wildlife, cultural and historic values. Seven miles of the river are within Afton Canyon ACEC and one mile is within Manix ACEC. Afton Canyon is one of the most heavily used recreation areas of the California desert. The area is used by OHV enthusiasts, equestrians, rockhounds, campers, picnickers, hikers, hunters and birdwatchers. The segment identified as eligible on public lands contains Outstandingly Remarkable Scenic Values (ORVs), i.e., Class "A" scenic quality, per BLM Manual guidelines. Public lands in this segment have been previously designated as an Area of Critical Environmental Concern in part because of spectacular scenery. Regionally rare plant communities such as Cottonwood-Willow Riparian Forest, Willow Riparian Scrub, Mesquite Bosque, as well as alkaline meadow, and emergent plant communities can also be found along this portion of the river. Wildlife supported by these plant communities includes a high percentage of neotropical migrant birds and local or regional disjuncts. The threatened desert tortoise occurs near this segment, as well as a host of sensitive and/or special concern species. The presence of flowing water in this segment has served to attract humans for thousands of years. The high relief, stark topography and lush riparian vegetation provided by this segment continue to offer many opportunities for non-intrusive recreation.

3.12 Noise

This section describes the existing ambient noise conditions and sensitivities in the West Mojave Planning area, and applicable laws and regulations. Individual sources of noises and the potential sensitive receptors of noises in the planning area are discussed. See also the biological section for a discussion of sensitive biological receptors. Most noise studies that quantify ambient noise conditions are based on chronic sustained noise levels that occur throughout the day, and have limited application to the planning area. Transportation noise studies assume route usage levels and a sustained usage level that are significantly higher than those found on public lands, unless adjacent to major freeways or highways. The types of noises from use of routes on public lands in the West Mojave planning area are generally intermittent noises created by the passage of single vehicles or vehicles in small groups on an irregular and infrequent basis. Higher levels or frequencies of intermittent noise are present along arterial routes and routes used for organized activities, particularly adjacent to start and staging areas on weekends in OHV Open Areas. Organized events can result in modestly higher noise levels along popular routes outside of Open Areas, as well as on the arterial access roads to OHV Areas before and after the events.

3.12.1 General Information on Noise

Noise is defined as unwanted sound. The Environmental Protection Agency (EPA, 40CFR205.166) has set noise emissions standards for many types of sources, under the Noise Control Act (1972). Noise can be described in terms of three variables: amplitude (loud or soft), frequency (pitch), and time pattern (variability), and its potential effects can be described in terms of a noise generating source, a propagation path, and a receiver (FTA 2006). The ambient sound level of a region is defined by the total noise generated within the specific environment and is usually composed of sound emanating from natural sources such as birds and wind blowing through leaves, and from human activities, including traffic on roads and highways. Ambient sound levels vary with time of day, wind speed and direction, and level of human activity. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location. Ambient noise levels will generally vary across a region. Because traffic on roads constitutes a substantial part of ambient noise levels, the ambient noise levels will generally be higher in close proximity to major transportation arteries such as urban centers and Interstate highways, and lower in undeveloped and remote areas.

Noise is defined as unwanted sound that exceeds the ambient level. Noise can be described in terms of three variables: amplitude (loud or soft), frequency (pitch), and time pattern (variability), and its potential effects can be described in terms of a noise generating source, a propagation path, and a receptor (FTA 2006). Excessive noise exposure has been shown to cause interference with human activities at home, work, or recreation; community annoyance, hearing loss, and affect people's health and well-being. Even though hearing loss is the most clearly measurable health hazard, noise is also linked to other psychological, sociological, physiological, and economical effects, either temporary or permanent (EPA 1974).

Potential human annoyance and health effects associated with noise may vary depending on factors such as: (1) the difference between the new noise and the existing ambient noise levels; (2) the presence of tonal noise, noticeable or discrete continuous sounds, such as hums, hisses, screeches, or drones; (3) low frequency noise (frequency range of 8 to 1,000 Hertz [Hz]); (4)

intermittent or periodic sounds, such as a single vehicle passing by, backup alarms, or machinery that operates in cycles; and (5) impulsive sounds from impacts or explosions (Brüel and Kjaer 2000). In some cases, noise can also disrupt the normal behavior of wildlife. Although the severity of the effects varies depending on the species being studied and other conditions, research has found that wildlife can suffer adverse physiological and behavioral changes from intrusive sounds and other human disturbances (NPS 2012).

With respect to the transportation network in the WEMO Planning area, the types of noises from use of routes on public lands are generally intermittent noises created by the passage of single vehicles or vehicles in small groups on an irregular and infrequent basis. In developed areas or areas near major highways that have higher ambient noise levels, the additional noise created by these vehicles is expected to have little or no adverse impact. However, in remote areas with low ambient noise levels, the additional noise may have an adverse impact on wildlife or sensitive receptors. This can especially be the case where routes used for organized activities create greater use levels, and therefore greater noise impacts, even if these impacts are only intermittent.

3.12.2 Noise Measurement

To describe environmental noise and to assess impacts on areas sensitive to community noise, a frequency weighting measure that simulates human perception is customarily used. The frequency weighting scale known as A-weighting best reflects the human ear's reduced sensitivity to low frequencies and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. In general, a difference of more than 3 dBA is a perceptible change in environmental noise, while a 5 dBA difference typically causes a change in community reaction. An increase of 10 dBA is perceived by people as a doubling of loudness, and almost certainly causes an adverse community response. Noise containing discrete tones (tonal noise) is much more noticeable and more annoying at the same relative loudness level than other types of noise, because it stands out against background noise (BLM 2005).

Decibels are logarithmic units that conveniently compare the wide range of sound intensities to which the human ear is sensitive. Therefore, the cumulative noise level from two or more sources will combine logarithmically, rather than linearly (i.e., simple addition). For example, if two identical noise sources produce a noise level of 50 dBA each, the combined noise level would be 53 dBA, not 100 dBA.

The predominant rating scales for noise impacts to human communities in the State of California are the equivalent continuous sound level (Leq) and Community Noise Equivalent (CNEL) based on A-weighted decibels (dBA). Leq is the total sound energy of time-varying noise over a sample period. CNEL is the time-varying noise over a 24-hour period, with a weighting factor of 5 dBA applied to the hourly Leq for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and with a weighting factor of 10 dBA from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). The noise adjustments are added to the ambient noise levels occurring during the more sensitive hours. Day-night average noise (Ldn) is similar to the CNEL but without the adjustment for nighttime noise events. CNEL and Ldn are normally exchangeable and within 1 dB of each other. Other noise-rating scales used to assess an annoyance factor include the maximum instantaneous noise level, or Lmax, and percentile noise exceedance levels, or LN.

Lmax is the highest exponential time-averaged sound level that occurs during a stated time period. It reflects peak operating conditions and addresses the annoying aspects of intermittent noise. LN is the noise level that is exceeded "N" percent of the time during a specified time period. For example, the L10 noise level represents the noise level exceeded 10 percent of the time during a stated period. The L90 noise level represents the noise level exceeded 90 percent of the time and is considered the lowest noise level experienced during a monitoring period. It is normally referred to as the background noise level.

Community noise levels are closely related to the intensity of human activity and land use. Noise levels are generally considered low when ambient levels are below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. In wilderness areas, the Ldn noise levels can be below 35 dBA. In small towns or wooded and lightly used residential areas, the Ldn is more likely to be around 50 or 60 dBA. Levels around 75 dBA are more common in busy urban areas (e.g., downtown Los Angeles), and levels up to 85 dBA occur near major freeways and airports. Although people often accept the higher levels associated with very noisy urban residential and residential-commercial zones, they nevertheless are considered to be adverse to public health.

The surrounding land uses dictate what noise levels would be considered acceptable or unacceptable. Most of the surrounding land use within close proximity to transportation routes in the WEMO Planning area is rural.

3.12.3 Typical Sound Levels

People experience a wide range of sounds in the environment. Table 3.12-1 shows the relative A-weighted noise levels of common sounds measured in the environment and industry for various sound levels, including transportation sources. Excessive noise cannot only be undesirable but may also cause physical and/or psychological damage. The amount of annoyance or damage caused by noise is dependent primarily upon the amount and nature of the noise, the amount of ambient noise present before the intruding noise, and the activity of the person working or living in the area. Environmental and community noise levels rarely are of sufficient intensity to cause irreversible hearing damage, but disruptive environmental noise can interfere with speech and other communication and be a major source of annoyance by disturbing sleep, rest, and relaxation.

Table 3.12-1. Typical Sound Levels Measured in the Environment and Industry

Noise source at a given distance[1]	A-Weighted Sound Level (dBA)	Noise Environments	Qualitative Description
Carrier deck jet operation	140	Carrier flight deck	Painfully loud
Civil defense siren (100 feet)	130		
Jet takeoff (200 feet)	120		Threshold of pain
Military jets (200-500 ft) flying through the sound barrier	110-120	Rural open space	
Loud rock music	110	Rock music concert	
Diesel Train (50 ft)	105	Rural open space	Very loud / very annoying
Pile driver (50 feet)	100		
Ambulance siren (100 feet)	90	Boiler room	

Table 3.12-1. Typical Sound Levels Measured in the Environment and Industry

Noise source at a given distance[1]	A-Weighted Sound Level (dBA)	Noise Environments	Qualitative Description
Dirt Bike[2]	86-96	Dirt Bike	Annoying
Motorcycle (50 feet)[3]	80	California State Standard for post-1985 motorcycles	
Pneumatic drill (50 feet)	80	Noisy restaurant	
Motorcycle (25 feet)	80	Rural open space	
Freeway traffic (50 feet)	70		Intrusive / Moderately loud
Air conditioning unit (20 feet)	60	Data processing center	
Typical Conversation	60	Average Living Room	
Single auto	60	Rural open space	
Light auto traffic (100 feet); rainfall	50	Private business office	
Bird calls	40	Average living room library	Quiet
Soft whisper (5 feet); rustling leaves	30	Quiet bedroom	Very Quiet
Broadcasting/Recording studio	20		
Normal breathing	10		Threshold of hearing

(1) Source is California Energy Commission 2008, except where otherwise noted.
(2) Source is Dirt Bike Rider 2009
(3) Source is California Code 27202; Realistic Bomber Training Initiative Final EIS, Appendix G. 2000. Dept of Defense, USAF Air Combat Command.

Sound is generally propagated by spherical spreading according to the "inverse square law". For noise, the sound energy decreases with the square of the distance. As such, the sound pressure level would be reduced by 6 dB per doubling of distance from a ground-level stationary or point source. For a noise source which is relatively long, such as a constant stream of highway traffic (line source), the sound pressure spreads at a rate of 3 dB per doubling of distance. The drop-off rate also varies with both terrain conditions and the presence of obstructions in the sound propagation path. At very large distances, beyond several hundred feet (ft), wind and temperature gradients influence sound propagation. Changes in noise levels due to wind are generally short-term without persistent directional winds, where some hours may be a decibel or two louder than others within the margin of precision of such an assessment.

Lower levels are expected in rural or suburban areas than what would be expected for commercial or industrial zones. Nighttime ambient levels in urban environments are about seven decibels lower than the corresponding daytime levels. In rural areas away from roads and other human activity, the day-to-night difference can be considerably less. Areas with full-time human occupation that are subject to nighttime noise are often considered objectionable because of the likelihood of disrupting sleep. Noise levels above 45 dBA at night can result in the onset of sleep interference effects. At 70 dBA, sleep interference effects become considerable (EPA 1974).

3.12.4 WEMO Planning Area Ambient Noise Conditions

Noise Sources

Generally, transportation-related noise sources, including road traffic, railroads, and aircraft, characterize the ambient noise environment of the Planning area (SCAG 2003). The magnitude of noise generated by a given roadway depends upon the overall traffic volume, fleet mix (particularly the percentage of trucks), and average vehicle speed. According to a noise study conducted in 2003 by SCAG on road segments with the highest traffic noise levels in the region (based on data on daily traffic volumes), maximum noise levels (Ldn) in roadways in Southern California, such as the Interstate 15, ranged from 61.5 to 78.1 dBA (SCAG 2003). In addition, on arterial roadways with typical daily traffic volumes of 10,000 to 40,000 vehicle trips, noise levels typically range from Ldn 65 to 70 dB at 50 feet from the roadway centerlines. The two major freeways and a handful of highways through the planning area do experience a continuous or near-continuous stream of traffic and associated noise levels, which may fluctuate with diurnal and nocturnal cycles. Other, major projects, during construction periods can last anywhere from days to months, and experience diurnal noise levels that may be substantial and continuous.

Most public lands in the planning area are rural and are subject primarily to much lower levels of background noise interrupted by intermittent natural and human-caused noises. Noise in rural areas varies considerably over the course of a day or throughout the year. This noise level variation makes it difficult to accurately determine background noise levels, levels that include natural but not human-caused sounds. Background noise levels in wilderness areas or very rural areas typically range between 35 and 45 dBA (Ldn) (Department of State 2007). The majority of the OHV use would be located in rural areas where there are few other existing human-caused noise sources. However, these areas also have fewer sensitive receptors in the planning area.

Due to the extent and nature of adjacent military uses in the West Mojave, one intermittent source of loud noise on public lands is from overflights of military aircraft; another is from training activities on adjacent military lands. Hunters utilize high-pitched whistles directed at specific targeted bird species that may disrupt other species. Land uses on public lands tend to generate substantially less noise during operation activities than during construction, and operational noises are limited in extent and localized in nature. Some maintenance activities may result in loud, but very infrequent noises.

The most regular, another consistent, intermittent noise source on public lands is from motor vehicles and trains. Motorcycles are the primary source of loud intermittent transportation-related noise off of highways and major arteries throughout the planning area. The Environmental Protection Agency (EPA, 40CFR205, 1980) under the Noise Control Act set noise emissions standards for large truck and motorcycle exhaust systems to manage their noise levels. The standard for street-legal exhaust noise emissions is 80 dB(a). All motorcycles manufactured after 1985 must operate at 80 dBA or lower. Since 1990, noise levels from motorcycle dirt bikes have decreased from 96 to 88 decibels.

A major issue on public lands is the illegal modification of motorcycle exhaust and muffler systems that can substantially increase noise levels above legal standards. There is currently no legally acceptable way for a law enforcement officer to measure noise emission upon stopping a vehicle. Testing must be conducted through a complex and expensive controlled-setting

procedure, as identified in EPA regulations (40 CFR205, App. I, Subpart D). Testing procedures are currently under reconsideration to address this issue.[4]

Railroad operations generate high, relatively brief, intermittent noise events. These noise events are an environmental concern for sensitive uses located along rail lines and in the vicinities of switching yards. Locomotive engines and the interaction of steel wheels and rails primarily generate rail noise. The latter source creates three types of noise: (1) rolling noise due to continuous rolling contact; (2) impact noise when a wheel encounters a rail joint, turnout, or crossover; and (3) squeal generated by friction on tight curves. For very high speed rail vehicles, air turbulence can be a significant source of noise as well. In addition, use of air horns and crossing bell gates contribute to noise levels in the vicinity of grade crossings (SCAG 2003).

These ambient noise levels associated with traffic and railroads are expected to be limited to areas near these major transportation arteries, and are likely not applicable to most of the planning area. Most of the public land in the area is relatively remote from these noise sources, and would be expected to exhibit ambient noise levels that are more characteristic of rural areas.. The majority of the OHV use would be located in these rural areas where there are few existing noise sources. These areas would also be expected to have fewer sensitive human receptors, but may also have a larger number of wildlife receptors.

Military and commercial aircraft also incrementally contribute to existing ambient, and these noises would occur in both developed and rural areas of the Planning area. Aircraft noise generates occasional, but intrusive noise levels for the occupants of property adjacent to airports and/or under the flight patterns of aircraft using airports (San Bernardino General Plan 2007). There are 12 commercial airports within the planning area, including large jet operations at Mojave Airport and the Southern California Logistics Airport. Military aircraft operations occur at Edwards Air Force Base, Twentynine Palms Marina Corps Base, and China Lake. Military operations result not only in ambient noise from jet engines, but sonic booms associated with military and experimental aircraft. A literature synthesis of the effects of aircraft noise on wildlife summarized numerous experimental studies in which sonic booms were simulated (USFWS and USAF 1988), and the simulations ranged from 72 to 156 db in magnitude.

OHV manufacturers have made huge strides in improving their vehicles to minimize excessive noise. Since 1990, noise levels from motorcycle dirt bikes have decreased from 96 to 88 decibels. Noise reduction can be accomplished by utilizing specific design and construction techniques in OHV areas, through careful trail planning and construction of berms to impede or dissipate sound. Further technological innovations are being made to reduce noise, and air, pollution. At the same time, some individual users have deliberately modified the exhaust systems of their vehicles in order to increase their noise level, a practice which was addressed in California Senate Bill (SB) 435, or Motorcycle Anti-Tampering Act.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to the types of activities typically involved. Residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, natural areas, parks, and outdoor recreation areas are

[4] *Noisy Motorcycles, a Quality of Life Issue, August 25, 2013. Institute of Noise Control Engineers and Noise Control Foundation Roundtable Report.*

generally more sensitive to noise than are commercial and industrial land uses. Consequently, the noise standards for sensitive land uses are more stringent than those for less sensitive uses, such as commercial and industrial (SCAG 2003).

Certain human activities and sensitive land uses (e.g., residences, schools, and hospitals) generally require lower noise levels. A noise level of Ldn 55 to 60 dB on the exterior is the upper limit for speech communication to occur inside a typical home. In addition, social surveys and case studies have shown that complaints and community annoyance in residential areas begin to occur at Ldn 55 dB (SCAG 2003).

For purposes of impact analysis among route network alternatives, BLM compared the proximity of motorized routes to sensitive receptors and residences. Sensitive receptors were defined as schools and health facilities. The number of sensitive receptors within the WEMO Planning area is presented in Table 3.12-2.

Table 3.12-2. Sensitive Receptors in WEMO Planning Area

Type of Sensitive Receptor	Within ¼ miles of a Route	Within 1 mile of a Route
Public School	12	43
Private School	0	6
Colleges	1	4
Health Facilities	0	7

In the impact analysis in Chapter 4, BLM identified the mileage of motorized routes within various distances of these receptors. The distances evaluated were 0.25 and 1.0 miles from the receptors.

To estimate the impacts to residences, BLM used the "developed area" layer of the vegetation database as a surrogate for areas where residences exist. In the analysis is Chapter 4, mileage of routes within 300 feet of the developed areas was used as a conservative assessment of the potential for noise impacts to residents.

Wildlife Receptors

Noise from motorized vehicles can affect wildlife by altering movement patterns, causing behavioral changes, and causing stress. The sensitivities of various groups of wildlife to noise varies substantially, and may be affected by ambient conditions as well as season. FHWA, in its study of traffic noise and wildlife (http://www.fhwa.dot.gov/environment/noise/noise_effect_on_wildlife/effects/wild04.cfm), summarized the following relative sensitivities:

- Humans 20Hz to 20kHz; sensitivity at 10-20 dB
- Mammals < 10 Hz to 150 kHz ; sensitivity to -20 dB
- Birds (more uniform than mammals) 100 Hz to 8-10 kHz; sensitivity at 0-10 dB
- Reptiles (poorer than birds) 50 Hz to 2 kHz; sensitivity at 40-50 dB
- Amphibians 100 Hz to 2 kHz; sensitivity from 10-60 dB

In its review of the effect of aircraft noise the authors identify a number of at least potentially, deleterious effects that accompany these sound levels in both domestic and wild species ranging from alert reactions to physiological indicators of stress (e.g. changes in hormonal levels, organ function, etc.). It should be noted that noise levels in these studies are generally intermittent and occur at levels greater than that typically encountered for road or motorcycle traffic (i.e. aircraft sounds generally > 100 dB).

A study conducted by Bowles et al. (1999) showed very little behavioral or physiological effect on desert tortoises of loud noises that simulated jet over flights and sonic booms. They also demonstrated that tortoise hearing is fairly sensitive (mean = 34 dB SPL) and was most sensitive to sounds between 125 and 750 Hz, well within the range of the fundamental frequency of most of their vocalizations. The authors concluded that tortoises probably could tolerate occasional exposure to sonic boom level sounds (140 dB SPL), but some may suffer permanent hearing loss from repeated longterm exposure to loud sounds such as from OHV and construction blasts. Boarman (2002) also indicated noise or vibration might affect tortoises that live alongside railroads, but found there were no studies to document the impact. He concluded, it is not known if train noise negatively affects the behavior, audition, or reproductive success of these tortoises.

3.12.5 Noise Regulations and Standards

Ambient noise standards are maintained at the Federal, state, and local levels. In 1974, the U.S. Environmental Protection Agency (EPA) published "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety" (USEPA 550/9-74-004). This document provides information for state and local agencies to use in developing their ambient noise standards to assist state and local government entities in development of state and local ordinances, regulations, and standards for noise (Department of State 2007).

Federal

Noise and land use guidelines have been produced by a number of federal agencies including the Federal Highway Administration, the EPA, the Department of Housing and Urban Development, and the American National Standards Institute. These guidelines are all based upon statistical noise criteria such as Leq, Ldn or CNEL.

The EPA "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety" identified outdoor and indoor noise levels to protect public health and assets (Table 3.12-3). A Leq (24) of 70 dB was identified as the level of environmental noise that would prevent any measurable hearing loss over a lifetime. An Ldn of 55 dBA outdoors and 45 dBA indoors were identified as noise thresholds that would prevent activity interference or annoyance (Department of State 2007).

Table 3.12-3. EPA Noise Control Guidelines

Use	Measure	Indoor activity interference (dBA)	Hearing loss consideration (dBA)[b]	To protect against both effects (dBA)[c]	Outdoor activity interference (dBA)	Hearing Loss consideration (dBA)[b]	To protect against both effects (dBA)[c]
Residential with Outside Space	Ldn Leq(24)	45	70	45	55	70	55
Residential with No Outside Space	Ldn Leq(24)	45	70	45			
Commercial	Leq(24)	[a]	70	70[d]	[a]	70	70[d]
Inside Transportation	Leq(24)	[a]	70	[a]			
Industrial	Leq(24)	[a]	70	70[d]	[a]	70	70[d]
Hospitals	Ldn Leq(24)	45	70	45	55	70	55
Educational	Ldn Leq(24)	45	70	45	55	70	55
Recreational Area	Leq(24)	[a]	70	70[d]	[a]	70	70[d]
Farm Land and General Unpopulated Land	Leq(24)				[a]	70	70[d]

Source: City of Rialto 1992

Notes:

[a] Since different types of activities appear to be associated with different levels, identification of a maximum level for activity interference may be difficult except in those circumstances where speech communication is a critical activity.

[b] Level of hearing loss is defined as the exposure period which results in hearing loss at the identified level is a period of 40 years.

[c] Based on lowest level

[d] Based on hearing loss

A Leq of 75 dBA during 8 hours may be identified in these situations so long as the exposure over the remaining 16 hours per day is low enough to result in a negligible contribution to the 24-hour average.

EPA has regulations that are specific to motor vehicle and motorcycle noise emissions. These regulations apply to motorcycles manufactured after 1982, except for motorcycles designed for closed-course competition only. Under 40 CFR Part 205, both street and off-road motorcycles manufactured after 1986 meet a noise standard of 80 dB, and must be labeled to indicate compliance with the standard.

State

California Government Code section 65302(f) encourages each local governmental entity to perform noise studies and implement a noise element as part of its General Plan. In addition, the California Office of Planning and Research has published guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure.

The California Department of Health Services has established the Office of Noise Control, which has prepared studies associated with noise levels and their effects on various land uses. Based upon these studies, the State has established interior and exterior noise standards by land use category and standards for the compatibility of various land uses and noise levels (Table 3.12.-4). In addition, noise limits for highway vehicles are regulated under the California Vehicle Code, §§23130 and 23130.5. The limits are enforceable on the highways by the California Highway Patrol and the County Sheriff's Office.

Motorcycles registered in the state that are manufactured on or after 2013 or have an aftermarket exhaust system manufactured on or after 2013 must have the federal EPA noise emission label affixed to it in order to be operated, used, or parked in the state.

Table 3.12-4. Noise/Land Use Compatibility Matrix for Community Noise Environments

Land Use Category	Community Noise Exposure Level (CNEL, dBA)						
	50	55	60	65	70	75	80
Residential – Low density single-family, duplex, and mobile homes							
Residential – Multi-family							
Transient Lodging – Hotels, motels							
Schools, Libraries, Churches, Hospitals, Nursing homes							
Auditoriums, Concert halls, Amphitheaters							
Sport arenas, Outdoor spectator sports, amusement parks							
Playgrounds, neighborhood parks							
Golf courses, riding stables, Cemeteries							
Office and Professional Buildings, Retail Commercial, Banks, Restaurants							

Table 3.12-4. Noise/Land Use Compatibility Matrix for Community Noise Environments

Land Use Category	Community Noise Exposure Level (CNEL, dBA)						
Industrial, Manufacturing, Utilities, Service Stations, Warehousing, Agriculture							

Source: State of California Office of Noise Control, Department of Health Services 1976

Normally acceptable: Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.

Conditionally acceptable: New construction or development should be undertaken only after a detailed analysis of the noise requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air systems or air conditioning, normally suffices.

Normally unacceptable: New construction or development should generally be discouraged. If it does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly unacceptable: New construction or development should generally not be undertaken.

3.13 Travel and Transportation Management Network

Two of the BLM's greatest management challenges are providing reasonable and varied routes for access to public lands and providing areas for a variety of motorized and non-motorized recreation. The various landscapes, user interests, equipment options, weather conditions, transportation infrastructure, and resource constraints all must be considered. Travel and transportation are an integral part of virtually every activity that occurs on public lands, including recreation, livestock and wildlife management, commodity resources management, ROWs to private inholdings, and public land management and monitoring. Comprehensive Travel and Transportation Management (TTM) is the planning, management, and administration of motorized and non-motorized roads, primitive roads, and trails to ensure that public access, natural resources, and regulatory needs are considered.

Comprehensive travel management planning should address all resource use aspects, such as recreational, traditional, casual, agricultural, commercial, and educational, and accompanying modes and conditions of travel on public lands, not just motorized or off-highway vehicle (OHV) activities.

3.13.1 Relationship to Other Plan Elements

There is considerable overlap of travel management and all BLM uses on public lands. For example, many users of public lands are there for recreation. For visitors, a route system may serve as either a route to a destination or as the recreation location itself. For destination recreation, vehicle routes are the means to get to a starting point to engage in the activity, such as a parking area or trailhead. The route itself also can serve as the focus of the activity, (e.g., pleasure driving, four-wheel vehicle driving, motorcycling, all-terrain vehicle (ATV; see definition below) riding, biking, horseback riding, hiking, snowmobiling, and cross-country skiing). To reduce the duplication of narrative between travel management and the other sections of this Supplemental EIS, this section addresses only public travel and access concerns; discussion of how other resource programs use the BLM's transportation system are found in those programs' respective sections.

For the purposes of land use planning, Comprehensive TTM can be considered as two basic components, the designation of OHV Areas and the designation of individual routes. OHV Area designations represent the land use planning level decisions and can only be modified though a land use plan amendment or revision. The route designations are considered implementation level actions and occur in unison with many site-specific actions and projects. Route designations are presented in this plan amendment to establish a baseline upon which subsequent site specific activities can work from. The travel network resulting from the route designations should be viewed as dynamic, with changes and modifications occurring with new authorizations throughout the life of the plan.

3.13.2 Modes of Travel and Access Points

3.13.2.1 Transportation Methods

Traditionally, the BLM's travel management program focused primarily on motor vehicle use. Within the framework of Comprehensive TTM, this program is significantly expanded to

encompass all forms of travel, including travel by foot, horseback and other livestock, mechanized vehicles (such as bicycles), motorized vehicles (such as two-wheeled motorcycles and four-wheeled OHVs, cars, and trucks), and motorized and nonmotorized boats. Mode of travel refers to the mechanisms used to move across the land. It is broadly defined in three categories, those that use motors, those using some mechanical method and those reliant only on the movements of the human (or animal) bodies. Examples are provided below.

Motorized Travel—Motorized travel includes standard passenger vehicles on maintained roads and OHVs on primitive roads and trails. OHVs include off-road motorcycles, ATVs, jeeps, specialized 4x4 trucks, and snowmobiles.

Mechanized Travel—Mechanized vehicles primarily include mountain bikes and specialized equipment such as mountain skateboards.

Non-mechanized Travel—Non-mechanized modes of travel include cross-country skiing, snowshoeing, horseback riding, pack animal driving, hiking, boating, hang-gliding, paragliding, and ballooning.

Transportation methods in the West Mojave are not unlike those of other communities. The movement of humans and agricultural and industrial products in and out of the planning area is provided by a variety of systems associated with smaller urban centers and rural areas. The planning area serves as a major transportation corridor taking goods and people in and out of the Los Angeles and Kern County metropolitan areas. With the completion of the Alameda Corridor rail line, the movement of goods is expected to continue to increase. Relatively inexpensive housing and the rural lifestyle of the planning area make commuting into the more populated coastal area attractive for many residents. This trend is expected to continue with the large increase in population that is expected. The planning area has a number of different means of transportation and these systems have been developed to connect farm/industrial/commercial centers to cities, and cities to communities within the County and State, and in other states and other nations.

3.13.2.1.1 Motorized Travel

Automobile, truck, and motorcycle traffic can use the varied network of roads and highways developed by the State and Counties. This mode of transportation is by far the most used system in the planning area, with roadways under State, County, service area, and private entity control. In addition to the movement of goods by rail, the planning area is a major corridor for the movement of goods by truck, again connecting Southern California to the rest of the United States. Caltrans, the Counties of Inyo, Kern, Los Angeles, and San Bernardino, and each incorporated community, manage motor vehicle systems in the planning area. The counties maintain many of the roadways within cities by contract.

The increase in the use of motorized vehicles has created several issues on public lands in the planning area. First, the increasing capability of motorized vehicles to traverse difficult terrain allows easier access to remote parts of the planning area, thereby increasing the likelihood of impacts on otherwise protected resources. Second, as the popularity of recreational OHV use continues to grow, there can be conflicts with other public land users. Lastly, the expansion of unauthorized cross-country OHV use is creating additional resource damage in the planning area. The route system within the planning area is widely scattered and disconnected; many BLM parcels within the planning area have little or no legal or physical access. Routes in the planning

area have been created and improved by trail and trailhead building, increased administrative access, energy development, and various ROWs. Over the years, many of these routes have also become part of the roads and trail system frequently used by visitors who are engaged in mechanized and motorized recreation. In addition, due to conditions in the desert, a single rider going off trail can develop a new route that remains on the ground for a substantial period of time. Livestock grazing operations also depend on the current route network for access within grazing allotments and access to range improvements. Because livestock grazing operations have decreased overall within the planning area, the dependency on the route network has also decreased.

The management of motorized activities within the planning area includes monitoring and maintaining trails, maintaining a database of use, ongoing training for OHV-related issues, issuing citations and warnings for violations, and coordinating with user groups, local officials, and other agencies.

State System - California Department of Transportation (Caltrans)

The State of California has established a series of state-constructed and maintained routes in accordance with the Street & Highway Code, Art. 3, Sec. 300 et.seq. State roadways in the planning area consist of Interstate freeways, freeways, expressways, highways and surface streets. For more than 100 years, Caltrans and its predecessors have been responsible for designing, building, operating and maintaining the California state highway system. Over time, as the population of California has increased, Caltrans' role has expanded to include rail and mass transit systems. In addition to a changing mix of transportation modes, such as highways, rail, mass transit and aeronautics, Caltrans professionals must consider the integration of various transit issues with land use, environmental standards, and the formation of partnerships between private industry and local, state and federal agencies.

Caltrans operates and maintains 15,000 miles of roadways included in the State Highway System with a budget of over $10 billion (Caltrans 2012). Caltrans is also responsible for ensuring proper distribution of the State Transportation Improvement Program.

Mass Transit

Mass transit and rapid transit systems in the planning area are limited to more conventional modes, specifically bus. There are many sources of bus public transit within the planning area. The largest providers in the area include:

- Victor Valley Transit Authority: The Victor Valley Transit Authority (VVTA) serves the cities of Adelanto, Hesperia and Victorville; the Town of Apple Valley; and the unincorporated communities of Phelan, Wrightwood, Pinon Hills, and Helendale. This transit system carries more than a million passengers annually. Service includes standard bus operations, plus curb-to-curb service for disabled persons.
- Morongo Basin Transit Authority: The Morongo Basin Transit Authority transports nearly 143,000 passengers each year in the City of Twentynine Palms, Town of Yucca Valley, and the unincorporated communities of Joshua Tree, Landers, Flamingo Heights, and Yucca Mesa.

- Barstow Area Transport: The City of Barstow administers the operation of the Barstow Area Transit, as well as two San Bernardino County-supported specialized services for seniors and persons with disabilities in the communities of Big River and Trona. The system carries more than 144,000 passengers each year.
- Antelope Valley Transit Authority: The Antelope Valley Transit Authority serves the Lancaster/Palmdale area. They provide a variety of services including local and commuter services. The transit system carries more than a million passengers annually.
- Kern Regional Transit (KRT): KRT operates a fleet of 30 vehicles ranging in size from 15 passenger paratransit minibuses to thirty-foot, heavy duty transit buses, with service in excess of 1.2 million miles. The KRT connects Taft, Frazier Park, Lancaster, Mojave, Wasco/Shafter, Delano, California City, Tehachapi, Ridgecrest, Inyokern, and Bakersfield with a ridership of over 450,000 passengers.

Rail

The WEMO Planning area is a major rail corridor for bringing goods in and out of the Southern California ports and metropolitan area. The entire rail network is operated by the private sector with the Southern Pacific and the Burlington Northern – Santa Fe rail systems carrying freight through and beyond the boundaries of the planning area. With the completion of the Alameda Corridor rail line, rail traffic is expected to increase to even higher levels in the future.

Aviation

There are several airports operating in the planning area. These facilities provide opportunities for air traffic and the movement of goods. A wide variety of air flights originate from the region, including small private plane operations, passenger flights and freight movement. In addition to the municipal and community airports, there are several military airfields located within the planning area.

3.13.2.1.2 Mechanized Travel

The climate in the West Mojave is well-suited for bicycle travel at many times of the year. Bikeways exist in most cities and in some unincorporated portions of the planning area. Most bikeways exist as marked lanes on surface streets within the communities. Many of the more recently developed portions of the planning area provide for foot traffic along sidewalks in residential areas while some of the older subdivisions make no provisions for pedestrians. Generally speaking, foot traffic pathways between unincorporated communities are nonexistent.

Mechanized travel, such as mountain biking, is becoming increasingly popular on public lands, and several areas in the WEMO Planning area are considered premium destinations. Throughout the planning area, mechanized use is not limited to designated routes, unless otherwise specified. Mechanized use is primarily occurring on old motorized routes, game trails, and user-created trails, as well as on planned single-track routes. Popular mountain biking areas in the planning area include Juniper Flats, Lucerne Valley, Calico Mountains, Sierras, El Paso Mountains, South Searles, Red Mountain, and the Rademacher Hills. The Rademacher Hills are an area within the Ridgecrest subregion where a Special Recreation Permit has been issued for a competitive mountain bike race for the last few years (2011-13) and was the sight of races for about ten years straight in the 1990s.

3.13.2.1.3 Non-Mechanized Transportation

Hiking and horseback riding have been increasing in popularity within the planning area. The high rate of population growth and sprawl of communities in Southern California, including Los Angeles, Ventura, and Santa Barbara, have subsequently added overflow pressure to public lands in the vicinity.

Hiking, Mountain climbing, and Rock Climbing are all popular forms of Non-mechanized travel. Hiking occurs both cross country and on established pathways. Those pathways used include roads and trails that are currently used by other vehicles, trails that are no longer in use by vehicles, livestock and game trails, plus historic pack and transportation trails. Some of the locations that are currently popular for hiking include Grapevine Canyon, Little Tahiti Falls, Deep Creek, Rainbow Basin, Mitchell Mountain, Sunrise Canyon, Fairview Mountains, Sand Canyon, Short Canyon, Rademacher Hills, Pacific Crest Trail, Fossil Falls, Centennial Canyon, Sacatar Trail, Great Falls Basin, and the Trona Pinnacles.

Another popular activity is hiking to scale a mountain to its highest point/peak often referred to as mountain climbing or peak bagging. Popular mountains to scale in the WEMO Planning area include Cave Mountain, Fremont Peak, Bell Mountain, Quartzite Mountain, Ord Mountain, Owens Peak, Black Mountain, Red Mountain, Chuckawalla Mountains, Butterbredt Peak, and Morris Peak.

The activity of rock climbing in which participants climb up, down or across natural rock formations is gaining popularity on the public lands. Some of the popular locations for people to rock climb include Sawtooth Canyon, Horseman Center, Margaritaville east of Apple Valley, Mule Canyon, Fairview Mountains, Fossil Falls, Five Fingers, School House Rocks, Robbers Roost, Poison Canyon, Great Falls Basin, and Wagon Wheel area.

Horseback riding is common, but dispersed throughout the planning area on trails and roads. No routes have been specifically constructed for equestrian use, but equestrian use occurs on routes that were constructed for other modes of travel. In the planning area, popular horseback riding areas include Mojave Riverbed, Afton Canyon, Juniper Flats, Rattlesnake Canyon, Morongo Valley, Rainbow Basin, Owl Canyon, Calico Mountains, McCloud Flat, Searles Valley, Red Mountain, Rand Mountains, El Paso Mountains, and the Rademacher Hills. In addition to these areas, horseback riding is popular in and around many of the desert communities including Trona, Ridgecrest, Inyokern, Victorville, Hesperia, and Roy Roger's home community of Apple Valley.

The use of horses as part of grazing operations also occurs within the planning area. Because livestock grazing operations have decreased overall within the planning area, the dependency on the use of horses has also decreased; however their use is still key, particularly in grazing allotments which overlap designated wilderness areas.

Corral type facilities have been developed at the Afton Canyon, Rainbow Basin, and Owl Canyon campground group sites.

In addition to casual use the Ridgecrest Field Office annually authorizes about six Special Recreation Permits for equestrian endurance events and long distance tours. The long distance tour takes riders from the community of Ridgecrest all the way to Furnace Creek in Death Valley National Park. While the endurance events challenge the conditioning of horse and rider to see if they can cover from 50 to 100 miles in less than 24 hours. These events occur within the

following subregions Ridgecrest, El Paso, Sierra, Red Mountain, Rand Mountains, and South and North Searles.

3.13.2.2 West Mojave Planning Area Roads

The road system within the planning area is mostly composed of four classifications of roads: major highways, arterials, collectors and local streets. Design, construction, and maintenance of the surface road system is the responsibility of each local jurisdiction's roads department or Caltrans.

The following road standards are left purposefully vague due to the numerous jurisdictions within the planning area. Specific road standards are available from each local jurisdiction.

Major Highways

There are many major roadways that connect this large planning area. Most of the major highways are two to four lane roads with some expanding to eight lanes in the more urban section of the planning area. These roads are state and US routes and are maintained by Caltrans and include:

- State Route 14: This route is classed as a major conventional highway/freeway. It is a north-south route located in Los Angeles County.
- State Route 18: This route is classed as a major conventional highway. It is an east-west route located in the southern portion of the planning area in San Bernardino County, with a short section in Los Angeles County.
- State Route 58: This route is classed as a major conventional highway/freeway. It is an east-west route located in San Bernardino and Kern Counties. This highway has many four-lane sections along its alignment.
- State Route 62: This route is classed as a major conventional highway. It is an east-west route located in San Bernardino County.
- State Route 127: This route is classed as a conventional highway. It is a north-south route located in San Bernardino and Inyo Counties.
- State Route 138: This route is classed as a major conventional highway/expressway. It is an east-west route located in Los Angeles and San Bernardino Counties.
- State Route 178: This route is classed as a conventional highway. It is an east-west route located in Inyo, Kern, and San Bernardino Counties. This highway expands to four lanes through Ridgecrest in the planning area.
- State Route 190: This route is classed as a conventional highway. It is an east-west route located in Inyo County.
- State Route 202: This route is classed as a conventional highway. It is an east-west route located in eastern Kern County.
- State Route 223: This route is classed as a conventional highway. It is an east-west route located in Kern County.

- State Route 247: This route is classed as a conventional highway. It is a north-south route located in San Bernardino County.
- U.S. Route 95: This route is classed as a major conventional highway. It is a north-south route located in eastern San Bernardino County.
- U.S. Route 395: This route is classed as a major conventional highway/expressway. It is a north-south route passing through San Bernardino, Kern, and Inyo Counties.
- Interstate Route 15: This route is classified as a major interstate. It runs northeast through San Bernardino County from the southwest corner of the planning area to the northeast.
- Interstate Route 40: This route is classified as a major interstate. It runs east-west through the southern section of the planning area through San Bernardino County.

Major highways are important to grazing operations with the planning area. Major highways not only connect these rural operations to towns and cities for meeting the needs of the rancher and their families, but also provide access to auction barns and other livestock markets. Major highways are essential for the transportation of sheep from the Bakersfield area out to grazing allotments in the planning area.

Arterials

Arterials are routes with high traffic carrying capacity. An arterial might be defined as a road that is used, designed to be used, or is necessary to carry high volumes of traffic. An arterial, when constructed to its ultimate standard, is typically two lanes of traffic and a parking lane each way separated by a median with additional right-of-way on either side. Access is typically limited in order to minimize potential conflicts. Subdivision standards limit access to two intersecting local streets between arterials and collectors (1/2 mile distance), with no intersection closer than 660 feet to another. Also, developers are usually required to abandon the right of vehicular access from lots adjacent to arterials. Actual listing of arterial locations is too numerous for this document. Arterials are usually within a 110 foot right-of-way and provide a connecting route between population centers and major highways. Arterials may also form the boundaries for neighborhoods. At present, numerous arterial alignments, especially in the rural areas, exist at local street standards (approximately 60-foot right-of-way). It is anticipated that development and traffic demand would result, ultimately, in the widening of these roads.

Collectors

Collectors are the next lower level of traffic carrying capacity. These routes carry lower volumes of traffic than arterials, but more than local streets. Collectors serve as collections for local street systems directing traffic to the arterials. These roads occasionally serve as boundary streets for neighborhoods and as a general rule are located along mid-section lines. The collectors usually have two-travel lanes and a parking lane each way with minimal additional right-of-way. While some residential lots may have access to collectors, it is preferable that access is limited and access to properties is directed to local streets.

Local Streets

Local circulation routes generally provide access directly to abutting properties. Under existing standards, these roadways consist of approximately 40 foot traveled way improved sections and

10-foot parkways on each side. The width of these roads varies a great deal with newer developments usually having wider travel lanes.

3.13.3 Travel and Transportation Inventory Update

The existing baseline inventory of routes is a combination of the 1985 and 1987 inventory, the 2001 and 2002 inventory that was conducted for the 2005 WEMO planning effort, and the inventory update conducted in 2012 and 2013, in support of this plan amendment. This plan amendment supersedes Appendix R of the 2005 EIS.

In 2012 and 2013, BLM updated the inventory of linear features by tracing additional features from USDA's one meter-resolution National Agriculture Imagery Program (NAIP) aerial photography into the Ground Transportation Linear Features (GTLF) geospatial database. The inventory consisted of the West Mojave network (as corrected), which serves as the No Action Alternative, and other linear features that currently exist on the ground, to ensure that all existing features were included in the analysis. Note that this inventory reflects the on-the-ground features existing as of 2013, and thus includes features that were developed after 1980, either as a result of BLM authorizations or through the unauthorized proliferation of routes. It also reflects substantial improvement in technical accuracy—many of the "new" features are simply the result of better photography since 1980 and were not detected at that time. Inventory updates since the 2005 WEMO planning effort have included using aerial imagery to digitize linear features within the WEMO Planning area in an effort to update the baseline inventory to include as many known routes and translinear disturbances as possible. In some areas, OHV crews have identified route locations by using GPS devices.

Off-Highway Vehicle Management Areas

All public lands within the WEMO Planning area are currently designated as either Open to OHVs, Closed to OHVs, or OHV Limited. The Open Areas were shown in Table 3.6-2, in the discussion of recreation. Most of the WEMO Planning area, 73.6 percent, is designated as OHV Limited.

Closed Areas do not allow motorized vehicle travel within the boundaries. Areas designated as Closed within the WEMO Planning area include congressionally designated Wilderness units, land in ACECs and Special Areas where provided for in management plans, and in certain sand dune and dry lakebeds.

Open Areas allow for motor vehicle travel anywhere in the area if the vehicle is operated responsibly in accordance with regulations. Even though within Open Areas vehicle travel is not restricted to a designated route system, sometimes routes are designated within the boundaries to assist the public in navigation through the areas and to locations of public interest. The Open Areas include designated OHV Open Areas (Table 3.6.2) and certain sand dune and dry lakebeds (see CDCA Plan, 1999, p. 78, Table 9.)

Limited Areas allow for motor vehicle travel to occur only on certain "routes of travel," which include roads, ways, trails, and washes, unless as identified on specific dune systems or lakebeds. At a minimum, use is restricted to existing routes of travel. An existing route of travel is a route established before approval of the Desert Plan in 1980, with a minimum width of two feet, showing significant surface evidence of prior vehicle use or for washes, history of prior use. When necessary, other limitations may be stipulated.

Due to higher levels of resource sensitivity vehicle access may be directed toward use on approved routes of travel. Approved routes include primary access routes intended for regular use and for linking desert attractions for the general public as well as secondary access routes intended to meet specific user needs. The Western Mojave Desert Off Road Vehicle Designation Project (2003) along with the 2006 WEMO Plan both reviewed route of travel within the planning areas and established an approved network of routes of travel.

In general the designated routes of travel are available for use by the public by all modes of travel including motorized, mechanized, and non-mechanized. At times as needed to protect and manage resources or to provide a varied recreational experience further limitations maybe placed on the designated routes. Some examples of these further restrictions that maybe implemented include modes of travel, periods of use, and types of user, such as authorized users (e.g., grazing permittees, right-of-way holders) or are limited to administrative access for agency purposes.

3.13.4 Characterization and Trends

Indicators to measure trends in travel management include the size of designated areas for motorized use (e.g., open, limited, or closed), miles of routes and trails in limited use areas, miles of routes and trails where motorized, mechanized, and non-motorized uses are allowed, restricted, or not allowed depending on resource and use considerations.

Demand for OHV use rapidly increased in the 1990s and continued into the first few years of the 2000s (Cordell and others 2008). In 1995, approximately 368,600 OHV and ATV were sold. By 2006, that number had almost tripled to approximately 1,034,966 OHV. Over a 10-year period, the total number of OHV grew from fewer than three million to more than eight million in 2003. Sales from 2004 through 2006 totaled almost 3.25 million vehicles. Assuming at least one million new vehicles were sold in 2007 and that 80 percent of all vehicles are still operable, there would be as many as 9.8 million ATV and off-road motorcycles in the US as of January 1, 2008 (Cordell and others 2008). Since 1980, OHV "green sticker" registrations in California have increased by 108%. Attendance at the State of California's State Vehicular Recreation Areas (SVRAs) increased from 1985 to 2000 by 52%. Registration of OHVs through the California Department of Motor Vehicles increased from 235,003 in 1980 to a peak of 1,135,919 in 2008.

The sales of OHV peaked in 2008, according to recent figures, and began to drop off with the economic downturn. Since 2008, the number of OHV registrations in California has declined every year to 905,366 in 2013. However, over the long-term, OHV use is expected to continue to increase in the planning area because of its proximity to southern California population centers and other popular recreation destinations, and based on the anticipated growth of populations in the high desert. Non-mechanized and non-motorized use close to urbanizing areas is also expected to grow as population grows. Demand for equestrian, hiking and mountain biking trails is expected to continue to increase on public lands next to all of the municipalities in the planning area, as well as in areas close to major subdivisions outside of incorporated towns.

CHAPTER FOUR
ENVIRONMENTAL CONSEQUENCES

4.1 Introduction

This chapter relates the direct, indirect, residual, and cumulative environmental consequences of the WMRNP Travel Management and Livestock Grazing Program alternatives on resources, land uses, and special designations in the West Mojave planning area.

Motorized transportation and livestock grazing potentially have both beneficial and adverse effects on public lands. Designation of transportation routes for motorized use can have a beneficial impact on the following resources: socioeconomics, minorities, recreation, grazing, and other uses of public lands, low-income and other special populations, and travel and transportation management. In the case of these resource areas, a larger network can have a beneficial effect by expanding means of access, recreation opportunities, and access to commercial uses of the public lands. In contrast, reducing the size of the network can adversely affect these resource areas by reducing access, and can impact these and other resources by changing use patterns. Also, placement of specific restrictions on uses of the routes can have an adverse effect by reducing the ability of users to use a route. The primary beneficial effects of grazing are to the permittees, but due to the predominance of minorities in the sheep grazing industry, grazing also benefits minorities. Grazing is a small element of the socioeconomics and commercial uses of the region.

Motorized transportation and livestock grazing can have adverse impacts on the following resources: air quality, soils, surface water quality, biological resources, cultural resources, visual resources, special designations, noise, and special populations, including minorities and low-income communities. In the case of these resources, a larger network presents a greater potential for having an adverse effect. A smaller network can also have adverse impacts if use patterns are substantially changed as a result. Considering the specific locations of sensitive resources when designating the network and identifying range improvements such as corrals and fencing can substantially avoid or reduce some adverse impacts. Some adverse effects would only occur if the motorized vehicle use or intensive grazing activities were to occur in close proximity to the resource. However, these activities can also contribute to cumulative impacts to these resources and to global climate change. The specific restrictions placed on uses of the routes and locations of concentrated grazing activities can generally be designed to minimize the potential for adverse impacts to occur. However, many impacts are as much the result of past and current disturbances as uses, and some impacts from the disturbances cannot be mitigated in the reasonably foreseeable future, given the nature of particular resources and the landscape.

4.1.1 Decisions Being Analyzed

As discussed in Section 2.1, the decisions to be made as part of the WMRNP for transportation management and livestock grazing include LUP-level decisions and implementation-level decisions. The LUP-level decisions include modification of the goals and objectives to manage the transportation and travel management program and the livestock grazing program, and modification of specific CDCA Plan parameters for the WEMO Planning area to implement the network, as summarized in Table 2.1-1. The goals and objectives for transportation and travel management, in turn, will affect the size and configuration of the resulting transportation

network. The livestock grazing LUP-level decisions have one major outcome related to livestock grazing, to further provide for species conservation and desert tortoise recovery consistent with the 2006 West Mojave Plan and the Federal Court's Summary Judgment and Remedy Orders.

Implementation decisions being considered include designation of routes within the transportation network to meet the established goals and objectives (again, affecting the size of the network), and specific route-use restrictions as needed to meet the CDCA Plan, WEMO, and newly established objectives.

Overall, the decisions have two major outcomes related to the transportation network:

- Which routes are designated for which types of transportation uses; and
- The specific restrictions placed on uses of those routes.

By definition, those features which are not designated for motorized or other types of transportation uses are classified as transportation linear disturbances, and are to be closed.

4.1.2 Analysis Methodology

This Chapter analyzes the environmental consequences of the plan amendment and implementation decisions being considered in WMRNP for transportation management and livestock grazing. As an introduction to the analysis, Section 4.1.4 provides a brief summary of the nine plan amendment decisions for travel management, of the two plan amendments to the livestock grazing program, of route designation, and of implementation strategies associated with each of the alternatives. Sections 4.2 through 4.13 then provide a resource-by-resource analysis of the environmental impacts associated with the alternatives, using the same subsection numbering as used for the description of the affected environment for each resource in Chapter 3. For each resource, each of these sections provides a brief summary of the affected environment for the resource, a description of the impacts which are common to all alternatives, and those associated with Alternatives 1 through 4.

The impact analysis includes the adverse and beneficial impacts that are generally associated with motorized vehicle operation and livestock grazing on public lands. This section discusses the effects of allowing access on motorized routes and non-motorized/non-mechanized routes on public lands; the effects of restricting access on those routes; the effects of eliminating access by designating routes as transportation linear disturbances; and the effects of placing limitations on access, in the form of minimization and mitigation measures. In addition, it includes the effects associated with the plan amendment decisions and implementation strategies related to transportation management and livestock grazing proposed under each alternative. Each impact analysis includes the following:

- A discussion of direct and indirect impacts resulting from the alternative;
- A discussion of whether the impacts are beneficial or adverse;
- Quantification, if applicable, of the impacts that would occur under the alternative;
- A discussion of specific locations of concern for that resource; and
- A description of measures that would avoid or reduce identified adverse impacts.

In general, quantitative analyses related to travel management are based on the mileage and/or acreage of routes designated as motorized, non-motorized, non-mechanized, and closed (transportation linear disturbance) within a geographic area that supports a resource. Two types of acreage calculations were made in the quantitative analyses. The direct acreage associated with the route networks is based on an assumption that the routes are approximately 12 feet in width. This width was used to calculate the acreage of disturbance associated with motorized routes in areas with sensitive resources, such as Special Designation areas, habitat for sensitive wildlife or vegetation, lands inventoried for wilderness characteristics, or areas with specific Visual Resource Inventory (VRI) classifications. It was also used to calculate the effects of closure of routes, such as the amount of particulate matter emissions that may be avoided through re-vegetation of closed routes.

The second acreage calculation was conducted to quantify the areas that may potentially be affected by stopping, parking, and camping adjacent to motorized routes. This calculation is based on a width of 88 feet within DWMAs (the 50 foot from centerline limit, minus the 12 foot width of the route itself), and either 88, 188, or 588 feet outside of DWMAs, depending on the allowable width (50, 100, or 300 feet) in each alternative. The percentage of actual use in these areas is expected to be very low, perhaps 1 percent of the potentially affected area.

For cultural resources, the quantitative analysis of impacts is based on the number of known cultural resources in varying proximity to each route designation type or concentrated area of grazing use. For transportation management, this is organized and analyzed per travel management area, and further refined by the boundaries of DWMAs. The quantitative analysis for cultural resources with respect to livestock grazing is based on the number of known cultural resources located within each grazing allotment.

For recreation and travel management, the analysis is based on the mileage of routes available to recreational and other authorized users, and the overall connectivity of the transportation network.

For livestock grazing, the quantitative analysis is based on the Animal Unit Months (AUMs) that are authorized or reallocated and the acreages each grazing allotment would maintain modify or lose based on the proposal contained under each alternative.

The geographic level of analysis varies by resource, and was developed in an iterative manner. For all resources, the quantities of miles, acres, or numbers of resources was preliminarily done on a WEMO-wide basis, to determine if there were substantial differences among the network alternatives. Once this analysis was complete, the results were evaluated by the BLM resource specialists. If substantial differences between the alternatives were identified, or were otherwise known to the resource specialists based on public comments or their familiarity with specific areas, more geographically-detailed analyses were developed. As a result, the cultural resource analysis was re-developed at a TMA level, in order to identify potential location-specific impacts. Similarly, biological resources were evaluated at the level of the applicable Area of Critical Environmental Concern (ACEC), Desert Wildlife Management Area (DWMA), Critical Habitat Unit (CHU), or other geographic unit used as a management tool by BLM. Livestock grazing was evaluated by grazing allotments within the planning area and the geographic overlap of a resource type or designated area boundary such as ACECs, DWMAs and CHUs, at the grazing allotment level.

The Council on Environmental Quality (CEQ) established implementation regulations for NEPA requiring that a Federal agency identify relevant information that may be incomplete or unavailable for an evaluation of reasonably foreseeable significant adverse effects in an EIS (40 CFR 1502.22). If the information is essential to a reasoned choice among alternatives, it must be included or addressed in an EIS. Knowledge and information is, and will always be, incomplete, particularly with infinitely complex ecosystems considered at various scales.

The best available information pertinent to the decisions to be made was used in developing the WMRNP SEIS. Considerable effort was taken over a period of more than two years to acquire resource data for this SEIS, including acquisition from available geographically-based datasets, contracting data acquisition and analysis for specific resources from regulatory agencies, and conducting field investigations. In the absence of direct quantitative data, impacts are described based on indirect quantitative data, qualitative data, and/or the professional judgment of the interdisciplinary team of technical specialists using best available information, and no incomplete or unavailable information was deemed essential to a reasoned choice among the alternatives analyzed in this chapter.

Section 4.14 presents an analysis of the cumulative impacts of the alternatives. To facilitate comparisons of similarities and differences in impacts among the alternatives, a summary of impacts is presented in Section 4.15.

4.1.3 Assumptions for Analysis

The general assumptions for analysis made in the 2006 WEMO Plan also apply to the WMRNP transportation management and livestock grazing program amendment analysis, as shown in Table 4.1-1.

Table 4.1-1. General Assumptions for Analysis

Category	Assumptions
Impact Analysis	• The discussion of impacts is based on the best reasonably available data. Knowledge of the planning area and professional judgment, based on observation and analysis of conditions and responses in similar areas, were used to infer environmental impacts where data is limited. • Acreage figures and other numbers used in this analysis are approximate projections for comparison and analytic purposes only. Readers should not infer that they reflect exact measurements or precise calculations. • Short-term impacts would occur over a 5-year period following implementation, while long- term impacts would occur over a 5- to 30-year period.

Table 4.1-1. General Assumptions for Analysis

Category	Assumptions
Plan Implementation	• Implemented actions would comply with all valid existing rights, regulations, and agency and jurisdictional policies. • Implementation of actions on BLM- administered public lands are anticipated to begin within thirty (30) days of signature of the BLM Record of Decision by the BLM California State Director. • If an inconsistency is found between this Plan Amendment and the DRECP Adopted Plan, the DRECP Plan implementation strategy will be followed. • Phasing of implementation would be based on receipt of additional funding and resources for the transportation management and livestock grazing program decisions. • As other agencies and jurisdictions acquire lands within the planning area (e.g., OHV Division, Kern County Acquisition, CDFW mitigation lands) the adopted transportation strategies in this Plan Amendment may need to be adjusted accordingly. • Cultural resource inventory, identification and evaluation will occur in accordance with the stipulations of the signed Programmatic Agreement pursuant to federal regulation.
Long-term Regional Trends	• High rates of urban growth would continue, especially in the southern and southwestern portions of the planning area. • The level of recreation use would continue to increase in proportion to regional population growth, and will be higher near the centers of population growth. • The levels of livestock use would continue to decrease in proportion to species conservation and desert tortoise recovery needs and other developments within the desert and on the public lands, such as alternative energy development. • The record of cultural resources present within in the planning area will increase in quantity and quality. • The data available to evaluate the level of impacts resulting from WEMO Plan implementation will increase and more natural resource impacts and cultural resource impacts will be avoided, minimized, or mitigated following the programs of signage, mapping, outreach, monitoring, and adoption of the stipulations of the Programmatic Agreement.

As with the 2006 WEMO Plan, the analysis in this Chapter is based on a general assumption that the overall size of the route network is unrelated to the total miles traveled on the network within the planning area. The total miles traveled in the planning area appears to be primarily the result of population changes, economic activity, public land uses which require access, and demand for recreational opportunities.

The configuration and overall size of the route network will affect the extent to which motorized travel is more dispersed throughout the region or is more concentrated in specific areas, and frequency of use in specific areas can be a factor in impacts on some resources. Any variation in resource impacts based on an increase in the total miles available for use in the WEMO planning area is anticipated to be offset by the intensity of use on a smaller network. All alternative networks are being developed from linear disturbances that already occur on-the-ground. Conversely, the specific locations of motorized use and increased miles within the network would result in variations in effects to resources, depending on specific locations of opened and closed routes.

These general assumptions are supported by observations made by BLM staff as well as visitor use numbers. For example in the Coolgardie subregion a closure of several acres was

implemented to protect Lane Mountain Milkvetch habitat. Staff has observed that this closure shifted the public land users from the closed area to neighboring areas that were not fenced off; however, the closure itself did not increase overall visitation or direct users to other less sensitive areas.

Of the proposed CDCA plan amendment decisions being considered as part of the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes, Incorporation of the TTM Process into the LUP, Updating non-discretionary OHV Area Designations, Identifying Plan Amendment Triggers, and Conforming the Livestock Grazing decisions) are common to all action alternatives. None of these five decisions authorize or remove authorization for motorized vehicle use in a specific area. Four of the decisions (PA-I through PA-IV) would define the route designation process or framework under which future on-the-ground actions are considered. In general, the purposes of these decisions are to clarify the manner in which future route network modifications consider the resource and use factors specified in 43 CFR 8342.1, to facilitate communication of route use limitations to the public, and to facilitate BLM's ability to enforce route use limitations. As a result, these decisions are expected to have no adverse effect on resources, and may benefit resources by facilitating adaptive management changes in response to changing on-the-ground conditions.

The decision eliminating the language that limits the route network to existing routes is necessary to bring the WEMO Plan into conformance with BLM regulations and guidance which require BLM to consider, and potentially authorize new routes (routes where no linear pathway currently exists) when needed to provide access to authorized land uses, or to address other land management needs. None of the alternatives change BLM's legal responsibility to provide access for other authorized land uses such as grazing, energy development, mining, or communications sites, or to develop roads as needed for emergency response and rehabilitation, to avoid safety hazards, or for other critical land management needs.

The authorization of new routes in areas where routes do not currently exist could potentially have adverse impacts to resources within the path of, or in close proximity to those routes. Because the locations of new routes are currently unknown, the nature and magnitude of the potential impacts cannot be predicted. However, the impacts of each specific, newly proposed route would be evaluated as part of the BLM's consideration of the application for land use authorization, or, for agency routes, within the BLM's policy framework for its specific management responsibilities.

As part of this evaluation, BLM would consider the potential impacts of designating the new route as required by 43 CFR 8342.1, evaluate potential alternatives to provide the necessary access, and identify measures to address any identified impacts to sensitive resources. In each case, the duration of the designation of the new route would be the same as the authorized land use it is intended to support. Generally, once the term of the authorized land use expires or a route is no longer needed for the purpose for which it was constructed, the route would be redesignated, and if consistent with 43 CFR 8342.1, would generally be closed; the terms and conditions of the authorized land use may require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1 that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route.

Although the overall size of the network would not affect regional-scale resources, specific locations of motorized routes or closed routes, and the authorized uses and minimization and mitigation measures applied to those routes, could affect localized resources. For each individual route under each alternative, the BLM made a route designation determination in consideration of a geographic comparison of the route with respect to potentially impacted resources as required under 43 CFR 8342.1. This process was described in subsection 2.3.

Once each route was preliminarily determined appropriate for designation as an open or limited route under each alternative based on the designation criteria and its proximity to identified resources, the potential overall impacts to each resource were quantified. These quantitative evaluations serve as the basis for the analysis throughout Chapter 4. In general, the magnitude of the adverse impacts to a location-specific resource is proportional to the mileage of motorized routes in that location, the acreage of route-related disturbance, and/or number of potentially affected resources in close proximity to motorized routes. As a result, the analysis in Chapter 4 is based on collective quantification of these mileages, acreages, and numbers of potentially impacted resources to provide an analysis of each network's impacts. Analysis of acreage figures takes into consideration network-wide minimization strategies (i.e. motorized stopping, parking, and camping parameters) that assume an area of potential increased disturbance beyond the designated route prism.

The converse of this is also true. Each alternative includes some amount of potential designation of routes as transportation linear disturbances (closed routes identified for natural or active rehabilitation). However, closure of routes also leads to more gradual beneficial impacts to some resources due to long-term route rehabilitation and re-vegetation, which could continue to increase beyond the life of the 20-year planning horizon. Among the alternatives, the more routes that are closed the greater the beneficial impact on certain resources, including air quality from lower levels of wind erosion of disturbed areas, soil resources which would no longer be compacted, vegetation, and wildlife resources. For these resources, the magnitude of the beneficial impact for each alternative would be roughly proportional to the number of route miles closed, or in the case of livestock grazing, the number of AUMs that are reallocated under that alternative; however, most of these beneficial impacts would be realized beyond the life of the Plan due to the long timeframes required for route rehabilitation and re-vegetation.

Some issues did not factor into the minimization strategies utilized to designate routes for each alternative but were considered in the analysis, and measures may be included to mitigate impacts. Frequency of use is a qualitative factor that may impact certain resources, but such data are not readily available on a network-wide basis, and it could not be directly considered in all route-specific designations. Assumptions about how much opening or closing specific routes will change use patterns are highly speculative on either a regional or a local basis, without substantial knowledge of the specific users of the routes. Frequency of use was considered indirectly in several ways. For instance, one factor in the analyses was knowledge of areas in which impacts had already occurred as a result of frequent use, such as soil erosion areas or highly disturbed areas. Another factor was the results of monitoring programs, such as air quality monitoring near OHV Open Areas, which indirectly measure impacts associated with frequency of use. Finally, the consideration of route designation based on co-location of routes and resources was generally conservative, resulting in closure of routes or implementation of mitigation measures based on the potential for adverse impacts. This process assumes that route use is frequent enough to cause adverse impacts, even if route-specific data are not available to

demonstrate the impacts. Therefore, BLM determined that available methods of indirectly considering and addressing frequency of use were adequate to identify and mitigate any reasonably foreseeable impacts to resources from motorized vehicle use. Additional measures may be subsequently identified in the travel management plans or occur in accordance with the stipulations of the signed Programmatic Agreement (PA) for cultural resources and Endangered/Threatened Species Consultation with USFWS.

4.1.4 Summary of Alternatives

Baseline Inventory of Routes

In 2012 and 2013, BLM updated the inventory of linear features by tracing features from USDA's one meter-resolution National Agriculture Imagery Program (NAIP) aerial photography into the Ground Transportation Linear Features (GTLF) geospatial database. The inventory consisted of the WEMO Plan network (as corrected), and other linear features that currently exist on the ground, to ensure that all existing features were included in the analysis. Note that this inventory reflects the on-the-ground features existing as of 2013, and thus includes features that existed in 1980 or were developed after 1980 through BLM authorization. In addition, the inventory includes features which resulted from the unauthorized proliferation of routes. It also reflects substantial improvement in technical accuracy, as most of the "new" features are simply the result of better photography since 1980 and were not detected at that time. See Appendix E for a summary of the processes BLM has used over time to address routes in the Plan area.

The mileage and acreage associated with the inventoried routes is presented in Table 4.1-2.

Table 4.1-2. Baseline - Inventoried Linear Disturbance

Use Description	Mileage/Acreage
Total Mileage	14943 miles
Direct Acreage (based on 12 foot width of routes)	21735 acres

Allowances for vehicle stopping, parking, and camping along routes of travel greatly increase the potential for new ground disturbance and the calculated acreage of disturbance. This is a problematic acreage to quantify in the baseline, because it is based on pre-2006 WEMO Plan "existing routes" in many areas, where the route network had not been clarified as major land acquisitions occurred over time. Following the 2006 WEMO Plan, with the establishment of DWMAs as ACECs and their associated stopping and parking limits, the potential area of disturbance has been reduced in the DWMA ACEC areas, and the reduction occurring in these areas can be quantified.

The percentage of actual use in the camping, parking and stopping zone is unknown, but is probably very low, perhaps 1 percent of the designated zone. In many regions, group campers utilize previously disturbed areas along the route that may have level ground, campfire rings and fewer obstacles to vehicle access and parking, particularly for larger and heavier RVs and two-wheel drive vehicles. In other areas, dispersed camping along the route results in negligible permanent disturbance.

Within the DWMAs, the stopping, parking, and camping zones are assumed to be occupied desert tortoise habitat, with burrows, food plants, shelter and drinking depressions. Rocky mountainous areas and playas within a DWMA are exceptions. Other ACEC areas protecting threatened and endangered plants, such as the Carbonate Endemic Plants Research Natural Area ACEC near Lucerne Valley, or the Lane Mountain milkvetch ACEC in Coolgardie Mesa and West Paradise, similarly contain resources that are highly sensitive to vehicle damage. The listed plants as well as desert tortoises could be subject to direct impacts by crushing from use of the camping, parking, and stopping areas. Indirect impacts from use of the route network within occupied habitat for threatened and endangered species might include temporary disruption of behavioral patterns of the species or the introduction of weeds, deposition of dust, spread of trash, disturbance by pets, or other effects of human use that could impair growth or reproduction of listed plants and animals.

Baseline Inventory of Other Resources

Primary data for most other resources were already collected and compiled into GIS layers. GIS layers used in the analyses and impact evaluations, along with their sources, are listed below. Most of these data are readily available from the source listed.

- Abandoned Mines (Source: BLM)
- Active Golden Eagle Nest Occurrences (Source: BLM)
- Air Quality (MDAQMD)
- Alkalai Mariposa Lily Occurrences (Source: CNDDB)
- Areas of Critical Environmental Concern (Source: BLM)
- Bakersfield Cactus Occurrences (Source: CNDDB)
- Barstow Woolly Sunflower Occurrences (Source: CNDDB)
- Bendires Thrasher Habitat (Source: BLM)
- Burrowing Owl Occurrences (Source: CNDDB)
- Charlottes Phacelia Occurrences (Source: CNDDB)
- Clokeys Cryptantha Occurrences (Source: CNDDB)
- Cultural Resources Information (Source: BLM, generated from County records)
- Cushenbury Buckwheat Critical Habitat (Source: US Fish and Wildlife Service)
- Cushenbury Buckwhetat Occurrences (Source: CNDDB)
- Cushenbury Milkvetch Critical Habitat (Source: US Fish and Wildlife Service)
- Cushenbury Milkvetch Occurrences (Source: CNDDB)
- Cushenbury Oxytheca Critical Habitat (Source: US Fish and Wildlife Service)
- Darwin Mesa Milkvetch Occurrences (Source: CNDDB)
- Darwin Rock Cress Occurrences (Source: BLM)

- Darwin Valley Beardtongue Occurrences (Source: CNDDB)
- Darwin Valley Sandpaper Plant Occurrences (Source: CNDDB)
- Dedeckers Clover Occurrences (Source: CNDDB)
- Desert Bighorn Sheep Occurrences (Source: CNDDB)
- Desert Cymopterus Occurrences (Source: CNDDB)
- Desert Linkages (Source: SC Wildlands)
- Desert Tortoise Critical Habitat (Source: US Fish and Wildlife Service)
- Desert Wildlife Management Areas (Source: BLM)
- Fringed Myotis Occurrences (Source: CNDDB)
- Gray Vireo Occurrences (Source: CNDDB)
- Grazing Allotments (Source: BLM)
- Guzzlers (Source: Society for Bighorn Sheep)
- Halls Daisy Occurrences (Source: CNDDB)
- Kelso Creek Monkeyflower Occurrences (Source: CNDDB)
- Kern Buckwheat Occurrences (Source: CNDDB)
- Land Mountain Milkvetch Occurrences (Source: CNDDB)
- Lands Inventoried for Wilderness Characteristics (Source: BLM)
- Lakes (Source: BLM)
- Little San Bernardino Mountains Gilia Occurrences (Source: CNDDB)
- Route Densities (Generated by BLM (Margosian) for this project)
- Special Recreation Management Areas Boundaries (Source: BLM)
- Wilderness Areas (Source: BLM)
- Wilderness Study Areas (Source: BLM)
- Least Bells Vireo Occurrences (Source: CNDDB)
- LeConte's Thrasher habitat (Source: BLM)
- Mojave Fringetoed Lizard Occurrences (Source: CNDDB)
- Northern Sagebrush Lizard Occurrences (Source: CNDDB)
- Pallid Bat Occurrences (Source: CNDDB)
- Spotted Bat Occurrences (Source: CNDDB)
- Southwestern Willow Flycatcher Critical Habitat (Source: US Fish and Wildlife Service)
- Southwestern Willow Flycatcher Occurrences (Source: CNDDB)

- Swainson's Hawk Occurrences (Source: CNDDB)
- Western Smallfooted Myotis Occurrences (Source: CNDDB)
- Western Mastiff Bat Occurrences (Source: CNDDB)
- Yellowbilled Cuckoo Occurrences (Source: CNDDB)
- Mohave Ground Squirrel Population Centers (Source: California Department of Fish and Game)
- Mojave Monkeyflower Occurrences (Source: CNDDB)
- Mojave Tarplant Occurrences (Source: CNDDB)
- Ninemile Canyon Phacelia Occurrences (Source: CNDDB)
- Ninemile Canyon Phacelia Occurrences (Source: BLM)
- Owens Peak Lomatium Occurrences (Source: CNDDB)
- Parishs Alkaligrass Occurrences (Source: CNDDB)
- Parishs Daisy Critical Habitat (Source: US Fish and Wildlife Service)
- Parishs Daisy Occurrences (Source: CNDDB)
- Parishs Phacelia Occurrences (Source: CNDDB)
- Piute Mountain Jewel Flower Occurrences (Source: CNDDB)
- Red Rock Poppy Occurrences (Source: CNDDB)
- Red Rock Tarween Occurrences (Source: CNDDB)
- Ripleys Cymopterus Occurrences (Source: CNDDB)
- Robison Monardella Occurrences (Source: CNDDB)
- Shortjoint Beavertail Cactus Occurrences (Source: CNDDB)
- Spanish Needle Onion Occurrences (Source: CNDDB)
- White Margined Beardtongue Occurrences (Source: CNDDB)
- Unusual Plant Assemblages (Source: BLM)
- Vegetation (Source: California Department of Fish and Game/DRECP)
- National Trails (Recreational and Historical) (Source: BLM)
- OHV Areas (Source: BLM and DOD)
- Parking Locations (Source: BLM)
- Recreation Destinations/Points of Interest (Source: BLM)
- Rock Collecting Areas (Source: BLM)
- SRP Routes (Source: BLM)

- Visual Resources Inventory (Source: Contract to BLM)
- Range Improvements (Source: BLM)
- Residences (Source: Vegetation Layer)
- Sensitive Receptors/Colleges (Source: ESRI)
- Sensitive Receptors/Health Facilities (Source: ESRI)
- Sensitive Receptors/Public Schools (Source: ESRI)
- Sensitive Receptors/Private Schools (Source:ESRI)
- Slopes (Source: Generated from BLM Contour Lines Data)
- Springs (Source: US Geological Survey)
- Washes (Source: BLM)

In addition to route data, additional field data was collected on the condition of riparian waters and springs, on cultural resources sites, wilderness characteristics information, recreational destinations, and MFTL survey data.

4.1.4.1 Alternative 1 - No Action Alternative

Alternative 1 Plan Amendment

Table 2.1-1 summarized the CDCA plan amendment decisions being considered as part of the transportation management and livestock grazing programs of the WMRNP. Under the No Action Alternative, no changes would be made to the CDCA Plan, as previously amended by the 2006 WEMO Plan and the Federal Court's Summary Judgment and Remedy Orders, except in conformance with recent legislation.

As discussed in Section 2.2.1 and Table 2.1-1, the CDCA Plan currently includes language that is not reflective of current policy or regulation. Therefore, the No Action Alternative would, in some respects, not be reflective of current policy and regulation and some inconsistencies between plan guidance and route designations would not be resolved. The Plan Amendments and decisions under the No Action Alternative include:

> PA I—Modify CDCA Plan Language Limiting Network to Existing Routes: Under the No Action Alternative this modification would not take place. As discussed on Page 8 of the Court's Summary Judgment Order, the CDCA Plan's language limiting OHV routes to those existing in 1980 is at the very root of the litigation associated with the 2006 WEMO Plan. There are two major difficulties associated with this language. First, as the Court acknowledges, BLM does not have an inventory of the route network as of 1980, so evaluating each linear feature to determine whether it did or did not exist in 1980 is not possible. The second difficulty is that the language does not appear to conform to the FLPMA requirement to consider and authorize administrative routes to support access for newly authorized rights-of-way such as power facilities and transmission lines, weather stations, communications sites, mining claims, or range improvements. In fact, the CDCA Plan language limiting OHV routes to those existing in 1980 could be read as in direct conflict with other CDCA Plan language that provides the framework for making

revisions to route designations in the future. That framework specifically acknowledges that the designations or limitations, including the construction of new routes, may require modification to accommodate future access needs or protection requirements.

PA II—Incorporate TTM Process: Under the No Action Alternative this modification would not take place. The current CDCA Plan is based on the former policy of designating individual routes in Limited Areas as Open, Limited, or Closed. The Open, Limited, Closed Route terminology is no longer applicable under the new TTM Handbook, and must be replaced with a discussion of the current process for designation of the travel network. The previous policy also did not include designation of non-motorized or non-mechanized routes as part of a travel network, so these actions must also be incorporated into the CDCA Plan. The current CDCA Plan also discusses route designations within the context of Multiple Use Class (MUC) designations, including blanket designations of routes in large areas based only on the MUC classification. While MUC classification may be one factor to be considered in considering designation of the travel network, this procedure does not consider route-specific resource conflicts as required by 43 CFR 8342.1.

PA III: Conform OHV Area Designations to Incorporate Changes to Wilderness Designations: Under the No Action Alternative this modification would occur, because it is in response to a legislative decision rather than a land use planning decision. Land-use planning decisions must conform to current legislative and regulatory requirements. The No Action Alternative reflects access area designations that are the result of the *Omnibus Public Land Management Act of 2009*, (Public Law 111-11). OHV Area designations in the CDCA Plan will be updated to incorporate this change. Areas that were Limited Areas and were included in wilderness designations in this legislation are now Closed Areas.

PA IV: Identify Plan Amendment Triggers: Under the No Action Alternative the Plan Modification triggers that are identified in the CDCA Plan and the 2006 WEMO Plan would apply. In discussing future modifications to the travel network in response to changing access needs or protection requirements, the current CDCA Plan states that future plan modifications will be considered on an individual basis. The 2006 WEMO Plan further clarified this guidance to define what minor adjustments may be made. The Plan would not be further amended to comply with the 2012 TTM Handbook in order to provide indicators to guide future plan maintenance, amendments, or revisions related to the travel management network.

PA V: Conform the Livestock Grazing Program in the CDCA Plan to the 2012 Appropriations Act: Under the No Action Alternative this modification would occur, because it is in response to a legislative act rather than a land use planning decision. Land-use planning decisions must conform to current legislative and regulatory requirements. The No Action Alternative reflects changes made under authority of the *2012 Appropriations Act* (Public Law 112-74), including the permanent relinquishment of the Lava Mountain and Walker Pass Common Allotments and reallocation of the 3,368 AUMs in these two allotments from livestock forage and use to wildlife use and ecosystem functions.

PA VI: Adopt TMAs: Under the No Action Alternative, no TMAs would be designated.

PA VII: Designate Competitive Event "C" Routes: Under the No Action alternative the competitive, or "C" routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road would continue to be available for competitive motorized events managed under a Special Recreation Permit (SRP). There are approximately 20 miles of designated trails that are currently classified as C routes in this area. The Johnson Valley to Parker Valley Corridor would remain available for permitting, subject to approval and receipt of a SRP, and SRP event route parameters identified in the CDCA Plan, as supplemented through compliance with NEPA, Section 106, and the ESA. As identified in the 2006 WEMO Plan speed-controlled corridor would be available between Stoddard Valley and Johnson Valley OHV Areas.

PA VIII: Designate Access Parameters for Dry Lakes: Under the No Action alternative Koehn Dry lakebed would remain designated as "Open", as it was designated in the WEMO Plan. Cuddeback, Coyote, and Chisholm Lake Trail Dry lakebeds would remain designated consistent with the surrounding area - "Closed to motor vehicle access, except for approved routes of travel or as authorized by Land Use Permit or Special Recreation Permit".

PA IX: Access to Rand Mountains-Fremont Valley Management Area: Under the No Action alternative the Rand Mountains area would be managed consistent with parameters outlined in 2.2.1.2.4 of the WEMO FEIS.

PA X: Limit Area of Stopping, Parking, and Camping (SPC) Adjacent to Routes: Under the No Action alternative, the stopping and parking rules associated with designated routes would remain as they are currently defined in the CDCA Plan, as modified by the 2006 WEMO Plan in DWMAs. Stopping and parking can take place within 50 feet of either side of the route centerline inside DWMAs, while camping is restricted to existing disturbed areas adjacent to open routes, within 50 feet. Stopping, parking, and camping can take place within 300 feet of either side of centerline outside of DWMAs, in accordance with 43 CFR 8341.1(f)(4), which states that no one may operate an off-road vehicle on public lands in a manner causing, or likely to cause significant, undue damage to or disturbance of the soil, wildlife, and wildlife habitat, improvements, cultural or vegetative resources or other authorized uses of the public lands."

PA XI: Limit the Livestock Grazing Program in Certain DT Habitat: Under the No Action alternative livestock grazing would continue under the terms and conditions contained in the Final Grazing Decisions issued for active grazing allotments within the West Mojave Planning Area. This would include the continuation of livestock grazing on approximately 117,290 acres of the Ord Mountain Allotment within the Ord-Rodman DWMA and CHU, and the continuation of ephemeral sheep grazing on approximately 6,726 acres of the Cantil Common Allotment and 601 acres of the Shadow Mountain Allotment within the Fremont-Kramer DWMA and CHU. Certain allotments (Table 2-20, 2005 WEMO FEIS) that have been voluntarily relinquished would be unavailable for livestock grazing. Vacant allotments would be subject to NEPA analysis upon receipt of an application to graze, and, if grazing is approved, would be subject to the terms and conditions of the 2006 West Mojave Plan.

Alternative 1 Route Designations

The access network included in the No Action Alternative would consist of 5,338 miles of motorized vehicular routes based on the route network that is currently available for use, as made in the following previous actions discussed in Section 3.1.1.2 and further detailed in Appendix E. The No Action Alternative now consists of:

- The network adopted in the 2006 WEMO Plan, as modified by the Court's Remedy Order;
- Minor error corrections, such as routes not matching the actual pathway on the ground; and
- Additional routes with right-of-way permits or other authorization instruments identified to-date in the inventory, that underwent an analysis and approval process consistent with 43 CFR 8342.1, and provide current rights of passage.

The No Action network does not include linear features identified after the inventory for the 2006 WEMO Plan except for authorized routes identified above; other post-2006 WEMO inventory features have been designated as closed for the purposes of this analysis. Although the routes were not specifically closed through the designation process and no particular decision was made on these routes, the 2006 WEMO route network is specified as consisting of routes designated as open or limited; all other routes are considered closed (unless they have independent authorization).

The No Action Alternative incorporates all goals and objectives associated with travel management and access currently contained in the CDCA Plan, as well as the biological resource objectives of the 2006 West Mojave Plan. These goals are primarily specified in the MVA Element of the CDCA Plan, but are also addressed in other elements of the CDCA Plan, consistent with the MVA Element.

A summary description of the route network can be found in Section 2.3.2, and key elements of the network can be found in the Summary Table 2.4-1. Table 4.1-3 summarizes the mileage of routes designated in the No Action Alternative.

Table 4.1-3. No Action Alternative - Miles of Routes Designated

Use Description	Mileage	Percentage of Total Network
Motorized	5,189.3	34.6 percent
Subdesignation: Motorcycle	38.3	0.3 percent
Authorized/Administrative	148.7	1.0 percent
Total Motorized	5,338.0	35.6 percent
Non-Motorized	0	0 percent
Non-Mechanized	10.7	0.1 percent
Closed (Transportation Linear Disturbance)	2,398	16.0 percent
Undesignated (Data not available in 2006)	7,214	48.3 percent
Total	**14,942.7**	

Under the No Action Alternative, implementation of the network would be governed by the strategies outlined in current policy, in the CDCA Plan, in current ACEC Plans, in the 2006 WEMO Plan, Section 2.2.6, as reflected in the current Sign Plan, Maintenance Plan, Monitoring Plan, and Enforcement Plan.

The implementation plans are located on the BLM California Desert District Website at http://www.blm.gov/ca/st/en/fo/cdd/wemo_court_mandates.html. These Implementation Plans place a priority on signing, informational kiosks, and route maintenance actions to clarify the network, which would have beneficial impacts for the recreational user and public land resources.

BLM would continue to implement the 2006 WEMO Plan and actively reclaim and disguise routes based on the biological priorities outlined in the 2006 WEMO Plan Implementation Section (2.6.6.10, p. 2-164), meaning that access on some features that are currently used by motorized vehicles would continue to be physically eliminated per those priorities.

Monitoring and response strategies for other resource values outside of ACECs would be pursued consistent with the BLM's current policies, 43 CFR 8342.1, and the CDCA Plan, as issues are identified.

4.1.4.2 Alternative 2 – Resource Conservation Enhancement

Alternative 2 Plan Amendment

The Alternative 2 travel management framework includes an access network which supports the objectives of increased biological and other resource enhancement in the entire planning area. This network identifies additional access limitation parameters based on the resource enhancement objectives, uses GIS and other technical analysis of current route information and resources, and emphasizes elimination of access as the primary mitigation measure to resolve conflicts (i.e., designating routes closed).

Table 2.1-1 summarized the CDCA plan amendment decisions being considered as part of the travel management and livestock grazing programs of the WMRNP. As discussed in Section 2.2.1 and Table 2.1-1, the CDCA Plan currently includes language that is not reflective of current policy or regulation. The first five plan amendment decisions include modifications necessary to conform the WMRNP to current policy, regulation, and law. As a result, the following decisions would be made under Alternative 2, as well as the other action alternatives (Alternatives 3 and 4):

PA I—Modify CDCA Plan Language Limiting Network to Existing Routes: Under Alternatives 2, 3, and 4, the CDCA Plan's references to existing routes of travel would be deleted, and replaced with language describing the process for designating a travel network in accordance with 43 CFR 8342.1 and the BLM TTM Handbook.

PA II—Incorporate TTM Process: Under Alternatives 2, 3, and 4, the discussions of open, limited, and closed route designations in the CDCA Plan would be updated to conform to the definitions in BLM's TTM Handbook. In general, the linking of route designations to Multiple Use Classes (MUC) would be eliminated. MUC may be a criterion in making individual route decisions in designating the travel network, but is not a replacement for the overall decision process.

PA III: Conform OHV Area Designations to Incorporate Changes to Wilderness Designations or other legislation: Under Alternatives 2, 3, and 4, as with Alternative 1 No Action, this LUP modification would occur, because it is in response to legislative decision rather than a land use planning decision. Land-use planning decisions must conform to current legislative and regulatory requirements. All Alternatives would reflect access area designations that are the result of the *Omnibus Public Land Management Act of 2009*, (Public Law 111-11). OHV Area designations in the CDCA Plan will be updated to incorporate this change. Areas that were Limited Areas and were included in wilderness designations in this legislation are now Closed Areas.

PA IV: Identify Plan Amendment Triggers: Under Alternatives 2, 3, and 4, the CDCA Plan would be modified to provide specific triggers to determine when a plan amendment is appropriate during future changes to the designated travel network, and when changes are within the scope of implementation activities and adaptive management responses.

PA V: Conform the Livestock Grazing Program in the CDCA Plan to the CDCA Appropriations Act: Under Alternatives 2, 3, and 4, this LUP modification would occur, because it is in response to a legislative decision rather than a land use planning decision. Land-use planning decisions must conform to current legislative and regulatory requirements. All Alternatives would reflect changes made under authority of the *2012 Appropriations Act* (Public Law 112-74), including the permanent relinquishment of the Lava Mountain and Walker Pass Common Allotments and reallocation of the 3,368 AUMs in these two allotments from livestock forage and use to wildlife use and ecosystem functions. The remainder of the grazing program in the WEMO Plan would continue to apply to Alternatives 2, 3, and 4, as well as to the No Action Alternative.

Six additional plan amendment decisions would vary between the action alternatives. Under Alternative 2, these decisions include:

PA VI: TMAs: Alternative 2 would include the designation of eight Travel Management Areas (TMAs) as part of the Motor Vehicle Access (MVA) Element of the CDCA Plan, as described in Table 2.3-3.

PA VII: Competitive Event "C" Routes: Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated "C" routes for competitive motorized events managed under a SRP. These currently designated "C" routes would be available for use by competitive motorized events only during the months of November, December, and January. The routes designated to the northeast and south of the Spangler Hills Open Area would be open for casual use touring in the area throughout the year. Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the OHV Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed in the WEMO Planning Area under Alternative 2. A Johnson Valley to Stoddard Valley competitive event corridor would not be established under this alternative.

PA VIII: Dry Lakes: Alternative 2 would add Koehn, Cuddeback, Coyote, and Chisholm Trail Dry lakebeds to the list of designated lakebeds. The only change in access to these lakebeds would be to change the designation of Koehn lakebed from "Open" to "Closed, except as authorized by Land Use Permit or Special Recreation Permit". The other three

lakebeds would remain "Closed to motor vehicle access, except for approved routes of travel or as authorized by Land Use Permit or Special Recreation Permit".

PA IX: Access to Rand Mountains-Fremont Valley Management Area: Under Alternative 2, the Rand Mountains-Fremont Valley Management Area would continue to be managed consistent with parameters outlined in 2.2.1.2.4 of the WEMO FEIS.

PA X: SPC Limits: Alternative 2 would limit camping to previously disturbed areas adjacent to designated routes within 50 feet from the route centerline, both inside and outside of DWMAs, except as site-specifically designated. Stopping and parking would be limited to within 50 feet of the route centerline throughout the planning area.

PA XI: Livestock Grazing: Alternative 2 would discontinue livestock grazing in DWMAs and CHUs and reallocate all of the 4,224 Animal Unit Months (AUM, an expression of livestock stocking commitment based on forage) from livestock forage to wildlife use and ecosystem functions. Public land totaling 159,819 acres would not be available for livestock grazing in six grazing allotments, consistent with 43 CFR 4130.2 (a)—these include a portion of the Ord Mountain, the entire Cronese Lake and Harper Lake, a small portion of the Johnson Valley, and portions of the Shadow Mountain Allotments. These allotments would be unavailable for livestock grazing. A sixth allotment is Cantil Common, which would have its boundary adjusted to close the 6,726 acres in the Fremont-Kramer DWMA and CHU to ephemeral sheep grazing. The remainder of the grazing program in the WEMO Plan would continue to apply to Alternatives 2, 3 and 4, as well as the No Action alternative.

Alternative 2 Route Designation

The access network included in Alternative 2 would consist of 4,293 miles of motorized vehicular routes. A summary description of the Alternative 2 route network can be found in Section 2.3.3, and key elements of the network can be found in the Summary Table 2.4-1. Table 4.1-4 summarizes the mileage of routes designated in Alternative 2.

Table 4.1-4. Alternative 2 - Miles of Routes Designated

Use Description	Mileage	Percentage of Total Network
Motorized	3,949.3	26.0 percent
Subdesignation: Motorcycle	228.5	1.5 percent
Authorized/Administrative	343.7	2.3 percent
Total Motorized	4293	28.3 percent
Non-Motorized	28.3	0.2 percent
Non-Mechanized	35.2	0.2 percent
Closed (Transportation Linear Disturbance)	10,600	69.8 percent
Total	**14,956.5**	

4.1.4.3 Alternative 3 – Public Lands Access Maintenance

Alternative 3 Plan Amendment

This alternative was developed to support the objectives of maintaining commercial and casual use, including recreational access in the planning area. This alternative also includes plan amendment decisions needed to bring the CDCA Plan and the West Mojave Plan into conformance with current policy, and delineates eight TMAs as part of its travel management framework. The alternative was developed to promote vehicle access to areas of casual user interest including various forms of recreation such as rock-hounding, bird watching, trail riding, extreme 4-wheel driving, horseback riding, camping, backpacking, mountain-bike riding, hunting, wildlife observation, and use of scenic vistas. Inyo, Kern, and San Bernardino County recreation plans were also emphasized in the route designations. Minimization strategies utilize non-closure approaches to the extent possible, and give additional emphasis on access in areas with less conflict.

Table 2.1-1 summarized the CDCA plan amendment decisions being considered as part of the travel management and livestock grazing programs of the WMRNP. As discussed in Section 2.2.1 and Table 2.1-1, the CDCA Plan currently includes language that is not reflective of current policy or regulation. The first five plan amendment decisions include modifications necessary to conform the WMRNP to current policy and regulation. As a result, the first five Plan Amendment decisions discussed under Alternative 2 above (PA I—PA V), would also be adopted under Alternative 3:

Six additional Plan Amendment decisions that would vary between the action alternatives. Under Alternative 3, these decisions include:

PA VI: TMAs: Alternative 3 would include the designation of eight TMAs as part of the MVA Element of the CDCA Plan, as described in Table 2.3-3.

PA VII: Competitive Event "C" Routes: Under Alternative 3, there would be "C" routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed and may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Any race staging area for C routes would still be limited to MUC Intensive (Class I) lands, and pit areas would be limited to those areas previously dedicated as Pit areas along the route.

Alternative 3 would specify a Johnson Valley connector race or speed-controlled event route-connector(s) between non-connecting portions of the remaining Johnson Valley OHV Recreational Area to provide a corridor that enhances organized vehicle riding opportunities within the Open Area, subject to additional coordination as needed with DOD. Staging and pit areas would be limited to within the Recreation Area. The decision would identify a specific route for the competitive-event connector between the remaining Johnson Valley OHV Recreational Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures. This connector was adopted in the WEMO

Plan, but no specific route was identified. The Johnson Valley to Parker Valley Corridor would be removed in the WEMO Planning Area under Alternative 3, which has not been used since the listing of the desert tortoise.

PA VIII: Dry Lakes: Alternative 3 would add Koehn, Cuddeback, Coyote, and Chisholm Trail Dry lakebeds to the list of designated lakebeds. Koehn Lakebed would be changed from "Open" to "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would be changed from "Closed to Motor Vehicle Access, except for designated routes or by Authorization, including Special Recreation Permit" to "Open" to motorized use, subject to appropriate minimization strategies.

PA IX: Access to Rand Mountains-Fremont Valley Management Area: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated upon issuance of a transportation management plan for the area. The remaining general management framework for the Rand Mountain – Fremont Valley Management Area would stay intact as outlined in 2.2.1.2.4 of the WEMO FEIS and the No Action Alternative, and a carefully managed Limited network would be established in the Rand Mountains area.

PA X: SPC Limits: Alternative 3 would limit camping to previously disturbed areas adjacent to designated routes within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. Designated camping and staging areas may be designated which exceed these parameters, with appropriate NEPA compliance and associated consultations.

PA XI: Livestock Grazing: Alternative 3 would discontinue livestock grazing on currently inactive allotments, which include Buckhorn Canyon, Harper Lake, Cronese Lake, Cady Mountain, Johnson Valley, Double Mountain and Oak Creek Allotments. There would be a reallocation of 3,164 AUMs from livestock forage to wildlife use and ecosystem functions on these inactive allotments. The inactive allotments would be unavailable for livestock grazing, including 1,100 AUMs within 41,928 acres in DWMA and CHU. The remainder of the grazing program in the WEMO Plan would continue to apply to Alternatives 2, 3, and 4, as well as the No Action alternative.

Alternative 3 Route Designation

The access network included in Alternative 3 would consist of 10,428 miles of motorized vehicular routes. A summary description of the Alternative 3 route network can be found in Section 2.3.4, and key elements of the network can be found in the Summary Table 2.4-1. Table 4.1-5 summarizes the mileage of routes designated in Alternative 3.

Table 4.1-5. Alternative 3 - Miles of Routes Designated

Use Description	Mileage	Percentage of Total Network
Motorized	10,149.7	67.2 percent
Subdesignation: Motorcycle	147	1.0 percent

Table 4.1-5. Alternative 3 - Miles of Routes Designated

Use Description	Mileage	Percentage of Total Network
Authorized/Administrative	278.3	1.8 percent
Total Motorized	10,428	69.0 percent
Non-Motorized	95.2	0.6 percent
Non-Mechanized	33.9	0.2 percent
Closed (Transportation Linear Disturbance)	4,404	29.2 percent
Total	**14,961.1**	

4.1.4.4 Alternative 4 – Community Access Enhancement

Alternative 4 Plan Amendment

This alternative would adopt nine TMAs as part of its travel management framework, to incorporate input from BLM's collaborative community outreach processes. This alternative also includes plan amendment decisions needed to bring the CDCA Plan and the 2006 WEMO Plan into conformance with current policy.

Table 2.1-1 summarized the CDCA plan amendment decisions being considered as part of the travel management and livestock grazing programs of the WMRNP. As discussed in Section 2.2.1 and Table 2.1-1, the CDCA Plan currently includes language that is not reflective of current policy or regulation. The first five plan amendment decisions include modifications necessary to conform the WMRNP to current policy and regulation. As a result, the first five Plan Amendment decisions discussed under Alternative 2 above (PA I—PA V), would also be adopted under Alternative 4:

Six additional Plan Amendment decisions that would vary between the action alternatives. Under Alternative 4, these decisions include:

PA VI: TMAs: Alternative 4 would include the designation of nine TMAs as part of the MVA Element of the CDCA Plan. The boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain Subregions) would be split into two separate TMAs. The Rands and Red Mountain Subregions would remain designated as TMA 7, but the Ridgecrest and El Paso Subregions would be managed separately as TMA 9.

PA VII: Competitive Event "C" Routes: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. If the Johnson Valley-to-Parker Valley Race route is determined to be no longer viable or otherwise deleted, additional (C) open routes may be designated outside of OHV Open Areas with appropriate NEPA and consistent with the WEMO Plan and the applicable travel management plan(s). In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. This alternative would specify a Johnson Valley connector race or speed-controlled route-connector(s) between non-

connecting portions of the remaining Johnson Valley OHV Recreational Area to provide a corridor that enhances organized vehicle riding opportunities within the Open Area. Staging and pit areas would be limited to within the Recreation Area. The decision would identify a specific route for the competitive-event connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures. This connector was adopted in the WEMO Plan, but no specific route was identified.

PA VIII: Dry Lakes: Alternative 4 would add Koehn, Cuddeback, Coyote, and Chisholm Trail Lake lakebeds to the list of designated lakebeds. Koehn Lakebed would be changed from "Open" to "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would be changed from "Closed to Motor Vehicle Access, except for designated routes or by Authorization, including Special Recreation Permit" to "Open" to motorized use, subject to appropriate minimization strategies.

PA IX: Access to Rand Mountains-Fremont Valley Management Area: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated upon issuance of a transportation management plan for the area. The remaining general management frame work for the Rand Mountain – Fremont Valley Management Area would stay intact as outlined in 2.2.1.2.4 of the WEMO FEIS and the No Action Alternative.

PA X: SPC Limits: Alternative 4 would limit camping to previously disturbed areas adjacent to and within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. Designated camping areas may be identified that exceed these parameters, with appropriate NEPA compliance and associated consultations.

PA XI: Livestock Grazing: Alternative 4 would discontinue livestock grazing in DWMAs and CHUs on allotments that are currently inactive and vacant, or that become inactive and vacant in the future, and would reallocate all of the 1,100 Animal Unit Months from livestock forage to wildlife use and ecosystem functions. Public land totaling 42,420 acres would not be available for livestock grazing. This includes a small portion of the Johnson Valley Allotment and two grazing allotments, Cronese Lake, and Harper Lake Allotments, in their entirety, consistent with 43 CFR 4130.2 (a). These allotments would not be available for livestock grazing. The remainder of the grazing program in the WEMO Plan would continue to apply to Alternatives 2, 3 and 4, as well as the No Action alternative.

Alternative 4 Route Designation

The access network included in Alternative 4 would consist of 5,782 miles of motorized vehicular routes. A summary description of the Alternative 4 route network can be found in Section 2.3.5, and key elements of the network can be found in the Summary Table 2.4-1. Table 4.1-6 summarizes the mileage of routes designated in Alternative 4.

Table 4.1-6. Alternative 4 - Miles of Routes Designated

Use Description	Mileage	Percentage of Total Network
Motorized	5,543.4	36.8 percent
Subdesignation: Motorcycle	120.9	0.8 percent
Authorized/Administrative	238.6	1.6 percent
Total Motorized	5,782	38.4 percent
Non-Motorized	62.5	0.4 percent
Non-Mechanized	21.8	0.1 percent
Closed (Transportation Linear Disturbance)	9,076	60.3 percent
Total	**14,942.1**	

4.2 Air Quality

4.2.1 Air Emissions

4.2.1.1 Introduction

Affected Environment Summary

Section 3.2 describes air quality in the planning area, including a description of the portions of the planning area that are in attainment and non-attainment with respect to state and federal standards for priority pollutants. The entire WEMO Planning area occurs or exists in air basins that are currently designated as non-attainment for the California 24 hour and Annual PM10 standard, and most of the planning area is also designated as non-attainment with respect to the federal 24 hour PM10 standard. Overall, ambient PM10 values in the planning area have been steadily decreasing since 1986. A portion of the planning area is designated as non-attainment for the state PM2.5 standard. The entire WEMO Planning area occurs in non-attainment areas for the state 1-Hour and 8-Hour ozone standard, and some portions of the planning area are designated as non-attainment with respect to the federal 8-hour ozone standard. The portion of WEMO within the South Coast Air Quality Management District is designated as non-attainment for the state annual and 1-Hour NO2 standard. The WEMO planning area includes urban and residential areas that have residences, schools, hospitals, and other sites which may be considered sensitive receptors for air quality impacts.

Methodology

The 2005 WEMO FEIS analyzed the air emission impacts associated with the 5,098 mile route network evaluated in that FEIS, and concluded that OHV route designations and OHV competitive events would result in a decrease in PM10 air emissions in both the short- and long-term, due to stabilization of closed routes and elimination of various speed events in DWMAs and other areas. The analysis concluded that the proposed action would not cause or contribute to a new violation, or increase the frequency or severity of an existing violation, of any National Ambient Air Quality Standards (NAAQS), and that no further conformity analysis was required.

In the Summary Judgment Order, the Court held that BLM only analyzed the impact of air emissions on open routes, but did not analyze the impacts of OHV emissions that would occur within OHV Open Areas. The Court required that the analysis be extended to include emissions from OHV Open Areas. In the Remedy Order, the Court vacated the finding of consistency with the Clean Air Act. In addition, the Order (pg. 14) required BLM to implement additional information gathering and monitoring regarding air quality in and around the OHV Open Areas. Finally, the Court made a general finding, for all resources, that the range of route network alternatives evaluated was inadequate. No other deficiencies were identified in the air quality analysis in the 2005 WEMO FEIS.

For this SEIS for the WMRNP, BLM performed the following:

- Contracted with the MDAQMD to compile and evaluate the monitoring results from the 46 ambient air monitoring stations in the WEMO Planning area. The evaluation included specific inventorying of emissions from the OHV Open Areas. The results of this study were reported to BLM in the West Mojave Plan Air Quality Evaluation Report dated April, 2013 (MDAQMD 2013), and are discussed in Chapter 3.2.

- The route designation process for each alternative included evaluation of the location of each route with respect to receptors and residences that could be particularly sensitive to air emissions for criteria pollutants.
- Conducted route evaluation and quantified the miles of motorized routes that could potentially impact sensitive receptors and residents, across four alternative route networks, ranging from 4,293 to 10,428 miles in size.

BLM re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, changes in conditions within the planning area, and changes in the applicable regulatory framework for air quality. This additional information is incorporated into the evaluation in Section 4.2.1.2 below.

4.2.1.2 Impacts Common to All Alternatives

Air quality impacts associated with the transportation network are caused by gaseous and particulate matter emitted into the air as a result of the direct and indirect effects of use of motorized vehicles (mobile source). Direct emissions include particulate matter less than or equal to 10 microns in size (PM_{10}) emitted as vehicles travel over unpaved routes, and exhaust emissions from motorized vehicles. Exhaust emissions contain EPA and state-regulated criteria pollutants including PM_{10}, volatile organic compounds (VOCs), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and particulate matter less than or equal to 2.5 microns ($PM_{2.5}$). Nitrogen dioxide (NO_2) and VOCs can react in the atmosphere to form ozone, another criteria pollutant. Motorized vehicle use can also lead indirectly to increased PM_{10} emissions when use creates disturbance in previously undisturbed areas, thus exposing soils to wind erosion to create fugitive dust.

Because motorized vehicle use, including OHVs, results in both direct and indirect air emissions, any change in the amount of motorized vehicle use as a result of the WMRNP alternatives has the potential to have regional or localized effects on air emissions. Increased motorized vehicle use would result in an increase in direct emissions, which would be considered an adverse impact on air quality, while reductions in motorized vehicle use would lead to a beneficial impact on air quality due to reduced emissions. Similarly, new disturbance created by newly developed routes in previously undisturbed areas would result in increased wind erosion, and therefore an increase in indirect particulate emissions or fugitive dust. Rehabilitation of disturbed areas by closure of routes would reduce indirect emissions and therefore have a beneficial impact on air quality.

The designation of the transportation network under the WMRNP alternatives is unlikely to have any discernible effect on the volume of motorized vehicle use, and therefore no effect on associated direct air emissions. The volume of motorized vehicle use on the transportation network is governed by economic activities such as mining or livestock grazing operations, land use designations, population, and demand for recreation opportunities. Closure of a route does not necessarily result in a corresponding reduction in the miles traveled by users within the region, and designation of a new route does not necessarily result in an increase in miles traveled. If certain routes in a region are closed, users are likely to seek other nearby open routes for the same purpose. Closures or designation of motorized routes can affect the density of motorized vehicle use in certain areas, but are not likely to affect overall number of vehicles in operation, and therefore overall emissions in the region.

The designation of the route network as part of the WMRNP alternatives would result in an effect on regional PM_{10} emissions associated with wind erosion. In general, the total amount of PM_{10} emissions originating from wind erosion of soil in an area is expected to be proportional to the total amount of disturbance. Change in the overall disturbance level between alternatives will begin to manifest slowly, and increase over time, beyond the horizon of the planning effort. The MDAQMD report provide in Appendix D concluded that the thousands of miles of maintained and unmaintained unpaved roads and tracks in the WEMO Planning Area is a primary contributor to regional dust problems. Any development of new routes in previously undisturbed areas is expected to increase wind erosion of soil from that area, and would result in an adverse impact on air quality. In contrast, closure and re-vegetation of routes would lead to a decrease in wind erosion, and therefore decrease indirect PM_{10} emissions, and would constitute a beneficial impact on air quality. The long-term assumption is that closed routes will eventually be reclaimed by natural processes, resulting in a gradual reduction in indirect emissions. Active rehabilitation of routes can speed the recovery process, resulting in a more rapid reduction in these indirect emissions. Active rehabilitation generally extends to the visual horizon. Natural re-vegetation may not occur over the entire previously disturbed closed route, depending on soil factors and this process may take years, decades, or longer.

Because the transportation network alternatives include differing mileage of designated motorized routes and transportation linear disturbances (closed routes), the alternatives would result in differing indirect air emissions, and would therefore differ in their adverse or beneficial impacts to air quality. In addition, although the overall direct emissions are expected to be the same regardless of the size of the transportation network, the variation of designated motorized routes and transportation linear disturbances among the alternatives would result in differences in the specific locations of localized emissions. As a result, some alternatives may impact more or fewer sensitive receptors than others. These differences in impacts among the alternatives are analyzed in Sections 4.2.1.3, 4.2.1.4, 4.2.1.5, and 4.2.1.6 below.

Under all alternatives, there would be changes in both direct and indirect emissions in the future as new routes are designated for motorized use, or existing routes are designated as transportation linear disturbances (closed routes). Some of these changes in emissions could potentially occur within close proximity to sensitive receptors or residences, and would therefore have adverse or beneficial effects on those receptors. However, the amount of these changes in emissions is expected to be minimal. In the future, after implementation of the project, new motorized routes would only be designated as a result of the TTM process, and closure of existing designated routes would only occur as a result of the same process. The mileage of routes that would be added or removed from the network is expected to be minimal compared to the current inventory. In the case of Rights-of-Way (ROW) authorizations, the BLM's authorizations are only provided following evaluation under the designation criteria, environmental review and consideration of air quality impacts for any proposed ROW. Therefore, the specific emissions, receptors, and impacts are considered at the time of authorizations and mitigation measures are developed and applied to avoid or reduce adverse impacts on a case-by-case basis.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features

would be closed (i.e., designated as transportation linear disturbances), under each alternative. In that analysis, air quality impacts, in the form of proximity of motorized use to sensitive receptors (schools, hospitals, and residential areas), were considered as a criterion in determining which routes would remain open and which would be closed under the various alternatives. In addition, the WMRNP alternatives include consideration of stopping and parking distances from routes in order to minimize potential disturbance in previously undisturbed areas, thus reducing the potential for indirect emissions through wind erosion. Therefore, minimization of air quality impacts was a factor both in development of the alternative route networks, and in the specific limitations placed on routes in those networks.

Emissions in OHV Open Areas

In 2012, the BLM asked for an Air Quality Evaluation from the Mojave Desert Air Quality Management District (MDAQMD) to identify the contribution of motorized vehicle use, including OHVs, to air emissions in the planning area (MDAQMD 2013). Air emissions from OHVs and OHV Open Areas are monitored through both regional-scale and neighborhood scale monitors. Emissions associated with OHVs in Open Areas and on motorized routes near population centers are monitored by neighborhood-specific monitors near those population centers. In the MDAQMD's emission inventory process, OHVs are directly inventoried as mobile sources, as the subcategory off-highway recreational vehicles. Inventory results indicate OHV exhaust is a negligible contributor to criteria pollutants in the WEMO Planning Area, except for VOC emissions. OHV VOC emissions are relatively high compared to other motorized vehicles because OHV engines are typically carbureted, rich burn engines without catalytic controls and hence have greater unburned fuel in their exhaust. VOC emissions, in turn, are a precursor to ozone formation, and ozone is a regional pollutant. Although OHV exhaust is a negligible contributor to local emissions, it is a significant contributor to regional VOC emissions.

PM_{10} emissions from wind erosion of disturbed surfaces can be substantial in the planning area. However, as discussed in Section 3.2, the MDAQMD report concluded that OHV Open Areas are not a significant contributor to either total unpaved road dust or fugitive windblown dust subcategories, and thus are not a significant contributor to regional PM_{10} emissions. This is because the area of use on the OHV Open Areas is small relative to the total mileage of maintained and unmaintained unpaved roads and tracks, as well as tens of millions of acres of land disturbed for other uses.

Although the use of OHV Open Areas generates indirect emissions of particulates, the MDAQMD study concluded that these emissions are small relative to the total emissions in the planning area. In addition, no changes to the Open Areas are proposed as part of the WMRNP. The Open Areas in the planning area were designated in the CDCA Plan, and no new areas or changes to existing areas are proposed. Therefore, the WMRNP alternatives would have no adverse effect on air emissions from OHV Open Areas.

Emissions from Livestock Grazing Allotments

Local air districts have federal and State air quality jurisdiction over all grazing allotments located in the WEMO Planning area, and have been delegated authority to implement the Clean Air Act from the EPA. These include the Mojave Desert Air Quality Management District (MDAQMD) in San Bernardino County, Antelope Valley Air Quality Management District

(AVAQMD) in Los Angeles County, Eastern Kern Air Pollution Control District (EKAPCD) in Kern County, and Great Basin Unified Air Pollution Control District (GBUAPCD) in Inyo County.

All local air districts have analyzed impacts from existing sources for PM_{10}, and prepared a State Implementation Plans (SIP) for the their respective jurisdictional areas which identify both existing sources of emissions and also control measures to manage existing emissions and reduce new emissions (MDAQMD, 1995). In the MDAQMD SIP, Miscellaneous Area Sources were considered to be a minor category of PM_{10} emissions in the planning area, generating only 1.3% of total emissions in 1990. Agricultural activity is a small contributor within this miscellaneous category, and livestock grazing operations are a small portion of the agricultural activity contributions. No measures were identified in the SIP specific to existing livestock grazing activities, and renewals of leases were exempted from conformity determinations consistent with the SIP, due to their nominal (less than 15 tons/year) contributions to air quality in the Mojave Desert planning area (BLM, 1997). These results are consistent will all other air district SIPs in the WEMO Planning area. Under cumulative effects, since the effects of grazing on PM_{10} are nominal, grazing would not contribute to cumulative effects.

Livestock grazing operations would utilize motorized vehicles in day to day operations by using the transportation network of Open or Limited routes. This use is necessary to facilitate the grazing operation but the amount of emission produced by one or two vehicles is minimal and the direct and indirect impacts to air quality under all alternatives would be de minimis.

Federal Conformity

A federal conformity analysis is required for any federal action within any federal non-attainment or maintenance area. The Clean Air Act and its implementing rules (40 CFR 93) state that federal agencies must make a determination that proposed actions in federal non-attainment/maintenance areas conform to the applicable state implementation plan (SIP) before the action is taken. In addition, the action cannot cause or contribute to any new violation of the National Ambient Air Quality Standards (NAAQS), cannot increase the frequency or severity of any existing violation of any NAAQS or delay timely attainment of any standard or any required interim emission reduction or other milestones.

The areas within the West Mojave planning area that meet the criteria of being federal non-attainment or maintenance areas are as follows:

- The Owens Valley portion of the Great Basin Valleys Air Basin (GBVAB) is designated as severe non-attainment for PM_{10}.
- The Indian Wells Valley portion of the Mojave Desert Air Basin (MDAB) is designated as Attainment/Maintenance for PM_{10}.
- The Kern River/Cummings Valley portion of the MDAB is designated as serious non-attainment for PM_{10}.
- The Searles Valley and Mojave Desert portions of the MDAB and the Salton Sea Air Basin (SSAB) are designated as moderate non-attainment for PM_{10}.
- The Eastern Kern County and Mojave Desert (modified) portions of the MDAB are designated as non-attainment for ozone.

- The SSAB is designated as non-attainment for ozone.
- The SSAB is designated as moderate non-attainment for $PM_{2.5}$.

None of the alternatives under consideration would increase emissions of the criteria pollutants. Alternative 2, the Resource Conservation Enhancement Alternative, would result in reductions of PM_{10} emissions due to active and natural restoration of closed routes. The No Action, Public Lands Access Maintenance, and Community Access Enhancement Alternatives would result in smaller or minimal reductions in the amount of these emissions, but would not increase emissions because they would not increase miles traveled, and would not increase the mileage of disturbed soil on motorized vehicle routes. The MDAQMD report confirmed that OHV Open Areas were not a substantial contributor to regional PM_{10} emissions. The projected growth of population and transportation in the public land areas are still substantially lower than projections in the regional plans. As a result, no further conformity analysis is necessary. A formal conformity determination is not required because the No Action Alternative is currently in conformance with the SIP and all the other alternatives would be in conformance with the SIP.

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4. For air resources, these include:

- Close the access route;
- Reroute access to another less-impacting route;
- Modify access to direct use to areas with a lower impact;
- Harden access route;
- Apply water or similar application during high use periods;
- Limit the route to lower intensity use or prohibit SRP use;
- Install/Implement Erosion Prevention Best Management Practices;
- Install signs; and
- Determine that no additional minimization and mitigation measure is needed based on area or site evaluation.

Residual Impacts After Implementation of Mitigation Measures

Residual impacts, in the form of air emissions from the use of motorized routes and indirect emissions from wind erosion in areas with soil disturbance, would continue to occur on motorized routes even after mitigation measures were applied. The magnitude of ongoing emissions from motorized vehicles are expected to be the same under all alternatives, as the overall mileage traveled is expected to remain the same regardless of the extent of the route network. The magnitude of residual indirect emissions from wind erosion would be related to the mileage of routes closed under each alternative and the soil texture of closed routes. Upon completion of closures and natural re-vegetation, wind erosion emission would be roughly proportional to the mileage and acreage of motorized routes closed under each alternative. These

differences would be substantially manifest beyond the life of the project (20 years). Estimates of natural reclamation vary depending upon soil texture; within 20 years, most routes in desert environments would begin to show signs of reclamation in the absence of additional disturbance from use, but would be subject to some level of wind erosion that would vary depending on soil texture. It is anticipated that closures will proceed at the same rate under all alternatives, and the differences would begin to be manifest over a longer timeframe.

4.2.1.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted. Two non-discretionary LUP Conformity determinations would occur as plan maintenance actions to align the CDCA Plan with recent wilderness and livestock grazing program legislation.

Of the nine other Plan Amendment decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Identification of Plan Amendment Triggers; Conforming the Livestock Grazing decisions, and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any specific on-the-ground actions. Therefore, these decisions would not result in direct impacts to air resources. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider air resources and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public;
- Facilitate BLM's ability to enforce route use limitations;
- Reallocate forage on the Lava Mountain and Walker Pass Common Allotments; and
- Update the Access Area designation maps to recognize that new wilderness areas are Closed Areas.

These amendments are expected to have no adverse effect on resources, and may benefit air resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation. The effects of these five decisions are considered nominal and will not be discussed further in this Section.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping,

parking, and camping distances, and changes to the livestock grazing program. The current management practices associated with these specific decisions as well as any changes to motorized vehicle use in the locations specified in the decisions under the action alternatives, do have the potential to impact air resources in those locations. These impacts are relatively small as compared to the impacts common to all alternatives addressed in 4.2.1.2. Specific impacts from these amendments under the No Action alternative are addressed in the following paragraphs.

PA VII: Competitive events may authorize large numbers of vehicles traveling at a high rate of speed, which has the potential to increase fugitive dust emissions in the local area. While these emissions may be substantial, they will also be localized and short in duration, and are similar to the effects from non-competitive organized events. Additional analysis occurs as part of the SRP permitting process, and appropriate mitigation measures are included.

Under the No Action Alternative, the overall number of competitive-use SRPs issued are not anticipated to change in the planning area—the limiting factor on the number and size of events over the last 10 years has been economic activity, weather, and, in more recent years, available staff and resources. Therefore, impacts to air quality across the planning area should be nominal from the designation of these routes.

PA VIII: The levels of use on the one lakebed, Koehn, that would remain designated as "Open" to OHV use are relatively light, and the impacts to air quality from this use is nominal. The other lakebeds would experience use on designated routes. Motorized vehicle use of dry lakebeds has the potential to increase fugitive dust emissions. Disturbance of soils on dry lakes by wind erosion is very significant on playas, and the wind erosion worsens when salt crusts from the last flood event are crushed by motor vehicles exposing fine sediments under the crust to winds blustering across a playa unobstructed by surface roughness. Because Koehn, Coyote, and Chisholm lakebeds are currently receiving relatively light use, the severity of impacts on the lakebeds is also low, and is not anticipated to substantially increase in the near future. Cuddeback lakebed currently receives substantial use and its soil crusts are highly modified from past use. Therefore, its continued use may have an adverse impact on air quality by the direct impacts to the lakebed, as well as by facilitating additional intensive recreational use on the lakebed and on the access routes to the lakebed that are located elsewhere in the area. While this decision may occasionally increase emissions in the local area, it would not have a direct adverse impact on regional air quality. The use or closure of these lakebeds would not impact sensitive receptors.

PA IX: Based on staff observations and informal discussions with visitors to the area there has been an observed shift in use patterns for the Rand Mountains-Fremont Valley Management Area. The shift has been from using the designated trails as a recreational trail riding experience to more of a travel network to go from one area to another. Additionally staff has observed a shift in camping patterns away from the management area to being closer to the developments and services that have been established within the California City area. The air quality impacts from this use are nominal.

PA X: The reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet for SPC would result in limiting future disturbances and allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing air emissions associated with wind erosion. Camping would be allowed adjacent to designated routes in previously disturbed

areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This decision would also reduce the amount of new disturbance that would occur, having a similar reduction in air emissions. The effect of these actions would be a net beneficial impact on local and regional air quality.

PA XI: The livestock grazing program under the No Action Alternative continues to decrease in both extent and intensity. The livestock that would remain on public lands in the WEMO Planning area result in nominal emission levels, and would continue to be de minimis (MDAQMD, 1995).

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that regional direct particulate and VOC emissions from motorized vehicles would not change among the alternatives, and therefore the impacts to regional air quality from all alternatives from direct emissions would be the same. As shown in Figure 3.2-3 and discussed in section 3.2, regional air quality, as measured by PM_{10} emissions, has steadily improved since 1986. This includes the time period since the 2006 WEMO Plan. However, the locations of direct emissions would vary among the alternatives, and therefore some alternatives may have a greater adverse or beneficial effect on sensitive receptors. The mileage of routes in close proximity to sensitive receptors and residents under the No Action Alternative is presented in Table 4.2-1.

Table 4.2-1. Alternative 1 - Miles of Routes in Proximity to Sensitive Receptors and Residents for Air Quality Impacts

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of route within 1 mile of Sensitive Receptor	23.2	0	0	0	106.6
Miles of route within 300 feet of Residences	126.3	4.8	0	0	419.8

The analysis of impacts common to all alternatives also concluded that indirect air emissions associated with wind erosion of disturbed areas would vary among alternatives, depending on the amount of routes left open to motorized vehicles and the amount of routes closed (designated as transportation linear disturbances). These differences between alternatives will be manifest primarily beyond the life of the plan. Two factors limit more immediate changes. Routes are being actively rehabilitated to the visual horizon, and active rehabilitation will continue under all alternatives over the life of the plan. The majority of closed miles would naturally reclaim. For desert soils, depending on the particular texture of the soils, in 100 years most routes would be 60 to 80 percent reclaimed.

Under the No Action Alternative, active route closures would occur as opportunities are identified and funding becomes available. Over the long term (100 years or more of consistent active rehabilitation activities and natural reclamation of routes) there would be reductions in emissions of particulate matter from closed routes, and corresponding declines in ambient PM_{10}

concentrations, as routes designated as closed and undesignated linear features are allowed to naturally re-vegetate. USEPA estimates the average emission of PM_{10} wind erosion of disturbed soils as 1.7 pounds per acre per day. Based on this estimate, and an assumption that each route is 12 feet wide, the closure of 9,594 miles of routes under Alternative 1 would result in an eventual reduction of PM_{10} emissions of 4,329 tons/year. This would result in corresponding declines in ambient PM_{10} concentrations. Although these reductions would be beneficial, they would not substantially change the number of yearly exceedances of state or federal PM_{10} standards or change the attainment status of any air district, and much of the change that does occur would not be manifest in the reasonably foreseeable future. The reductions cited here are beyond the planning horizon of this planning project. Over the life of the project, the reductions in emissions would not vary between alternatives.

Alternative 1 Minimization and Mitigation Measures

Table 2.3-1 describes the network-wide minimization and mitigation measures that are currently specified in the CDCA Plan, WEMO Plan, and/or the Court's Remedy Order, and which are therefore applicable under Alternative 1, the No Action Alternative. Whether they were applied during the route designation process or are mitigation measures, these considerations reduce overall direct and/or indirect air emissions, or reduce the proximity of those emissions to sensitive receptors or residences. Measures such as limiting new ground disturbance in DWMAs, vertical mulching closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 300 feet outside of DWMAs, and limiting camping to disturbed areas adjacent to open routes, would reduce PM_{10} emissions by minimizing disturbance of currently undisturbed areas and allowing currently disturbed areas outside the DWMA 50-feet limits to naturally re-vegetate, as compared to pre-2006 conditions before these limitations were enacted. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific air quality impacts, including direct vehicle emissions and emissions in close proximity to sensitive receptors, are considered before authorizing new motorized routes.

4.2.1.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, six of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Identification of Plan Amendment Triggers; Conforming the Livestock Grazing decisions, Conforming the Access Area Designations, and Designation of TMAs) would amend BLM's procedures for managing travel and transportation and livestock grazing management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to air quality. These decisions would only define the route designation process, and the LUP framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider air resources and use factors specified in 43 CFR 8342.1;

- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.
- Reallocate forage on the Lava Mountain and Walker Pass Common Allotments.
- Update the Access Area designation maps to recognize that new wilderness areas are Closed Areas.

These amendments are expected to have no adverse effect on resources, and may benefit air resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy, regulation, and law.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be identified in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to air resources from each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to air resources.

In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date that, consistent with 43 CFR 8342.1, the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of alternative routes established to address impacts to resources, these new routes may become permanent.

Five of the plan amendment decisions being considered would modify on-the-ground authorization of livestock grazing and motorized vehicle use. The air quality impacts of these decisions under Alternative 2 are as follows:

PA VII: Competitive events may authorize large numbers of vehicles traveling at a high rate of speed, which has the potential to increase fugitive dust emissions in the local area. While these emissions may be substantial, they will also be localized and short in duration, and are similar to the effects from non-competitive organized events. Additional analysis occurs as part of the SRP permitting process, and appropriate mitigation measures are included.

As pointed out in the No Action Alternative, the overall number of SRP permits are not anticipated to increase—the limiting factor on the number of events is currently a function of seasonal availability, staff and resources. This means that there is not anticipated to be a substantial increase in the number of OHVs using public land in the area. Some increase may occur however on any particular weekend, and designating the "C" routes does not authorize individual SRP events to use these routes. Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated "C" routes for competitive motorized

events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. This decision would reduce local emissions associated with motorized use of those "C" routes during the remainder of the year, and would therefore have a nominal beneficial impact on local air quality during these periods of inactivity. However, the users of those routes are expected to use other routes and areas within the planning area for recreation, and the overall amount of emissions within the planning area is expected to remain the same. Therefore, this decision would not have a direct adverse or beneficial impact on regional air quality.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any effect on local or regional air quality.

PA VIII: Motorized vehicle use of dry lake beds has the potential to increase fugitive dust emissions. Disturbance of soils on dry lakes by wind erosion is very significant on playas, and the wind erosion worsens when salt crusts from the last flood event are crushed by motor vehicles exposing fine sediments under the crust to winds blustering across a playa unobstructed by surface roughness. The closure of Koehn Lakebed under Alternative 2 would reduce local emissions associated with motorized use of that area over the long term, and would therefore have a net beneficial impact on local air quality. Because Koehn lakebed is currently receiving relatively light use, the amount of displaced use to other routes would be low. Therefore, this plan amendment decision is not expected to have an indirect, adverse impact on air quality by increasing the recreational use of routes in other areas. While this decision may reduce emissions in a local area, it would not have a direct adverse or beneficial impact on regional air quality.

PA IX: The implementation of the permit system in the Rand Mountains-Fremont Valley Management Area would continue. The system does not directly impact air quality, but indirectly may do so by dissuading some users from using this area. This may have nominal local beneficial effects. However, the users of those routes are expected to use other routes and areas within the Planning area for recreation, and the overall amount of emissions within the planning area is expected to remain the same. Therefore, this decision would not have a direct adverse or beneficial impact on regional air quality.

PA X: Limiting stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs would result in the same impacts as the No Action alternative. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. This reduction would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing air emissions associated with wind erosion. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This decision would also reduce the amount of new disturbance that would occur, having a similar reduction in air emissions. The effect of these actions would be a net beneficial impact on local and regional air quality.

PA XI: Discontinuing livestock grazing on portions of the Ord Mountain, Cantil Common, Shadow Mountain Allotments, a small portion of the Johnson Valley Allotment and the entire Harper Lake and Cronese Lake Allotments would result in less grazing use, thus lower overall emissions when compared to No Action, that would be generated from the remaining grazing operations within the West Mojave Planning Area. Again, direct and indirect impacts to air quality from grazing operations would continue to be de minimis (MDAQMD 1995).

Alternative 2 Route Designation

Section 4.2.1.2 described the general impacts to air quality that are common to all alternatives. That analysis concluded that regional direct emissions from motorized vehicles would not change among the alternatives, and therefore the impacts to regional air quality from all alternatives from direct emissions would be the same. However, the locations of those direct emissions would vary among the alternatives, and therefore some alternatives may have a greater adverse or beneficial effect on sensitive receptors. The mileage of routes in close proximity to sensitive receptors and receptors under Alternative 2 is presented in Table 4.2-2.

Table 4.2-2. Alternative 2 - Miles of Routes in Proximity to Sensitive Receptors and Residents for Air Quality Impacts

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of route within 1 mile of Sensitive Receptor	19.2	0.1	8.5	0	105.2
Miles of route within 300 feet of Residences	80.0	5.8	1.9	0	474.8

The analysis in Section 4.2.1.2 also concluded that indirect air emissions associated with wind erosion of disturbed areas would vary among alternatives, depending on the amount of routes left open to motorized vehicles and the amount of routes closed (designated as transportation linear disturbances). Closed routes would be naturally re-vegetated by nature and scheduled for route rehabilitation actions, as needed. USEPA estimates the average emission of PM_{10} wind erosion of disturbed soils as 1.7 pounds per acre per day. Based on this estimate, and an assumption that each route is 12 feet wide, the closure of 10,600 miles of routes under Alternative 2 would result in an eventual reduction of PM_{10} emissions of 4,783 tons/year. This would result in corresponding declines in ambient PM_{10} concentrations. Although these reductions would be beneficial, they would not be substantial enough to substantially change the number of yearly exceedances of state or federal PM_{10} standards or change the attainment status of any air district.

Alternative 2 Minimization and Mitigation Measures

Table 2.3-5 describes the network-wide minimization and mitigation measures that would be applied under Alternative 2. Whether they were applied during the route designation process or are mitigation measures, these measures would reduce overall direct and/or indirect air emissions, or reduce the proximity of those emissions to sensitive receptors or residences. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, limiting

permitted events to OHV Open Areas only, and implementing stopping and parking limits of 50 feet from route centerlines, and further limiting camping in disturbed areas adjacent to open routes to within 50 feet of centerline, would reduce PM_{10} emissions by minimizing disturbance of currently undisturbed areas and allowing currently disturbed areas outside these limits to naturally re-vegetate. Requirements for plan amendments and NEPA reviews of future major route network changes would ensure that specific air quality impacts, including direct vehicle emissions and emissions in close proximity to sensitive receptors, are considered before authorizing new motorized routes.

4.2.1.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, PA I – PA VI are decisions that would amend BLM's procedures for managing travel and transportation and livestock grazing management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on air quality is the same as discussed for Alternative 2.

Five of the plan amendment decisions being considered would modify on-the-ground authorization of livestock grazing and motorized vehicle use. The air quality impacts of these decisions under Alternative 3 are as follows:

PA VII: Competitive events may authorize large numbers of vehicles traveling at a high rate of speed, which has the potential to increase fugitive dust emissions in the local area. While these emissions may be substantial, they will also be localized and short in duration. It is anticipated that the overall number of SRP permits will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to air quality across the planning area from the designation of these routes.

Under Alternative 3, the: "C" route network available for competitive motorized events managed under a SRP would be expanded in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. Overall, the localized air quality impacts from Alternative 3 would be moderately higher than the impacts from the No Action Alternative., and substantially higher than under Alternative 2, based on the number of miles and seasons of use between the alternatives.

The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. There are no beneficial impacts from the corridor deletion, because the corridor has not been used for a competitive event in over 20 years.

In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The decision to adopt a Johnson Valley to Stoddard Valley Competitive Event Corridor would result in more intensive emissions along the designated route, and may increase limited access area use that otherwise might occur within the OHV Open Area. However, with the MCAGACC military base expansion and resulting

reduced OHV Open Area, some of that use is anticipated to transfer to this area anyway, unless a corridor is provided. In consideration of this, overall air quality impacts from this decision are considered nominal.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. Motorized vehicle use of dry lake beds has the potential to increase fugitive dust emissions. Disturbance of soils on dry lakes by wind erosion is very significant on playas, and the wind erosion worsens when salt crusts from the last flood event are crushed by motor vehicles exposing fine sediments under the crust to winds blustering across a playa unobstructed by surface roughness. While this plan amendment decision would not increase the overall recreational use of routes, it may transfer recreational use to areas which are more prone to generating fugitive dust emissions, due to finer soil grain size. Therefore, this decision would increase emissions in a local area, and may have an adverse impact on regional air quality.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. By eliminating the permit requirement, this decision may result in an increase in recreational use of these routes, and thus an increase in localized fugitive dust emissions. However, this additional use would likely be transferred from other areas, which would have a corresponding reduction in fugitive dust emissions which would be beneficial in those areas. The overall net regional air emissions are not likely to be changed by this decision.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. As discussed for Alternative 2, this reduction would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing air emissions associated with wind erosion. This decision would also reduce the amount of new disturbance that would occur, having a similar reduction in air emissions. The effect of these actions would be a net beneficial impact on local and regional air quality. However, the beneficial impact would be lower than that for Alternative 2, because Alternative 3 would allow for a wider area of disturbance (100 feet versus 50 feet).

PA XI: Alternative 3 would discontinue livestock grazing on currently inactive allotments, which include Buckhorn Canyon, Harper Lake, Cronese Lake, Cady Mountain, Johnson Valley, Double Mountain and Oak Creek Allotments. Direct and indirect impacts to air quality from the current grazing operations within the West Mojave Planning Area would continue to be de minimis as determined in No Action (MDAQMD 1995) , because Alternative 3 would result in the same or fewer grazing operations within the Planning Area.

Alternative 3 Route Designation

Section 4.2.1.2 described the general impacts to air quality that are common to all alternatives. That analysis concluded that regional direct emissions from motorized vehicles would not change among the alternatives, and therefore the impacts to regional air quality from all

alternatives from direct emissions would be the same. However, the locations of those direct emissions would vary among the alternatives, and therefore some alternatives may have a greater adverse or beneficial effect on sensitive receptors. The mileage of routes in close proximity to sensitive receptors and receptors under Alternative 3 is presented in Table 4.2-3.

Table 4.2-3. Alternative 3 - Miles of Routes in Proximity to Sensitive Receptors and Residents for Air Quality Impacts

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of route within 1 mile of Sensitive Receptor	77.2	0	7.3	0	47.1
Miles of route within 300 feet of Residences	455	12.6	4.5	0	90.8

The analysis in Section 4.2.1.2 also concluded that indirect air emissions associated with wind erosion of disturbed areas would vary among alternatives, depending on the amount of routes left open to motorized vehicles and the amount of routes closed (designated as transportation linear disturbances). Closed routes would be reclaimed by nature and scheduled for route rehabilitation actions, as needed. USEPA estimates the average emission of PM_{10} wind erosion of disturbed soils as 1.7 pounds per acre per day. Based on this estimate, and an assumption that each route is 12 feet wide, the closure of 4,404 miles of routes under Alternative 3 would result in an eventual reduction of PM_{10} emissions of 1,987 tons/year. This would result in corresponding declines in ambient PM_{10} concentrations. Although these reductions would be beneficial, they would not be substantial enough to substantially change the number of yearly exceedances of state or federal PM_{10} standards or change the attainment status of any air district.

Alternative 3 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 3. Many of these measures would act to reduce overall indirect and/or indirect air emissions, or to reduce the proximity of those emissions to sensitive receptors or residences. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, limiting permitted events to OHV Open Areas only, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce indirect PM_{10} emissions by minimizing disturbance of currently undisturbed areas. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific air quality impacts, including direct vehicle emissions and emissions in close proximity to sensitive receptors, are considered before authorizing new motorized routes.

4.2.1.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, PA I – PA VI are decisions that would amend BLM's procedures for managing travel and transportation and livestock grazing management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 4 as for Alternatives 2 and 3 with one exception, and therefore effect of these decisions on air quality is the same as discussed for Alternative 2. The exception is for the designation of TMAs, these decisions would include nine TMAs under Alternative 4 rather than eight, as for Alternatives 2 and 3. The effect of all these decisions on air resources is the same as discussed for Alternative 2, essentially nominal.

Five of the plan amendment decisions being considered would modify on-the-ground authorization of livestock grazing and motorized vehicle use. The air quality impacts of these decisions under Alternative 4 are as follows:

PA VII: Competitive events may authorize large numbers of vehicles traveling at a high rate of speed, which has the potential to increase fugitive dust emissions in the local area. While these emissions may be substantial, they will also be localized and short in duration. It is anticipated that the overall number of SRP permits will not increase. Additionally, designating the "C" routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to air quality across the planning area from the designation of these routes.

Under Alternative 4, the C route network includes areas northeast of the Spangler Hills Open Area above the Randsburg Wash Road and within the Summit Range and east of Highway 395, available for competitive motorized events managed under a SRP. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The network is more extensive than Alternatives 1 and 2, but less extensive as Alternative 3. Likewise, the localized air quality impacts from Alternative 4 would be moderately higher than the impacts from the No Action Alternative., and substantially higher than under Alternative 2, but lower than Alternative 3, based on the number of miles and seasons of use between the alternatives.

The proposals for the disposition of three competitive or speed-controlled corridors to serve events are same in Alternative 4 as Alternative 3, and the impacts are the same for both alternatives as well. These impacts are greater than for Alternative 2 or the No Action Alternative.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. Motorized vehicle use of dry lake beds has the potential to increase fugitive dust emissions. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2. In general, this decision is likely to increase local emissions on Cuddeback, Coyote, and Chisholm Trail Lake lakebeds, having a direct, adverse impact in those local areas, as identified in Alternative 3, by potentially transferring recreational use to these lakebed areas which are more prone to generating fugitive dust emissions, due to finer soil grain size.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. As indicated under Alternative 3, eliminating the permit requirement may result in an increase in recreational use of these routes, and thus an increase in localized fugitive dust emissions. However, this additional use would likely be transferred from other planning area routes, which would have a corresponding reduction in fugitive dust emissions which would be beneficial in those areas. The overall net regional air emissions are not likely to be changed by this decision.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. The impacts of this decision would be the same as those discussed for Alternative 3.

PA XI: The discontinuation of livestock grazing on a small portion of the Johnson Valley Allotment and on the entire Harper Lake and Cronese Lake Allotments would result in approximately the same emission levels that would be generated from facilitating the remaining grazing operations within the West Mojave Planning Area under No Action. Again, direct and indirect impacts to air quality from the remaining grazing operations would continue to be de minimis (MDAQMD, 1995).

Alternative 4 Route Designation

Section 4.2.1.2 described the general impacts to air quality that are common to all alternatives. That analysis concluded that regional direct emissions from motorized vehicles would not change among the alternatives, and therefore the impacts to regional air quality from all alternatives from direct emissions would be the same. However, the locations of those direct emissions would vary among the alternatives, and therefore some alternatives may have a greater adverse or beneficial effect on sensitive receptors. The mileage of routes in close proximity to sensitive receptors and receptors under Alternative 4 is presented in Table 4.2-4.

Table 4.2-4. Alternative 4 - Miles of Routes in Proximity to Sensitive Receptors and Residents for Air Quality Impacts

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of route within 1 mile of Sensitive Receptor	25.9	0.8	2.4	0	100.8
Miles of route within 300 feet of Residences	126.4	6.1	0.3	0.3	411.2

The analysis in Section 4.2.1.2 also concluded that indirect air emissions associated with wind erosion of disturbed areas would vary among alternatives, depending on the amount of routes left

open to motorized vehicles and the amount of routes closed (designated as transportation linear disturbances). Closed routes would be naturally re-vegetated over the long-term, and would also be scheduled for route rehabilitation actions, as needed. USEPA estimates the average emission of PM_{10} wind erosion of disturbed soils as 1.7 pounds per acre per day. Based on this estimate, and an assumption that each route is 12 feet wide, the closure of 9,076 miles of routes under Alternative 4 would result in an eventual reduction of PM_{10} emissions of 4,096 tons/year. This would result in corresponding declines in ambient PM_{10} concentrations. Although these reductions would be beneficial, they would not be substantial enough to substantially change the number of yearly exceedances of state or federal PM_{10} standards or change the attainment status of any air district.

Alternative 4 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 4. Many of these measures would act to reduce overall indirect and/or indirect air emissions, or to reduce the proximity of those emissions to sensitive receptors or residences. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, limiting permitted events to OHV Open Areas only, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce indirect PM_{10} emissions by minimizing disturbance of currently undisturbed areas. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific air quality impacts, including direct vehicle emissions and emissions in close proximity to sensitive receptors, are considered before authorizing new motorized routes.

4.2.2 Climate Change

4.2.2.1 Introduction

Affected Environment Summary

Section 3.2 describes the sources and effects of global climate fluctuations and climate change, including forecasted changes in the local landscape and ecology of the Mojave Desert. These include changes in flooding frequency and severity, with flood risks likely to become greater as winter precipitation increases under changing climate conditions. Within desert environments such as the Mojave, desert scrub vegetation types are expected to expand.

Methodology

The 2005 WEMO EIS did not specifically analyze the global climate change impacts associated with the 5,098 mile route network evaluated in that EIS. The Court's Summary Judgment and Remedy Orders did not specifically reach conclusions, or provide direction, regarding the need for analysis of impacts on global climate change.

For this SEIS for the WMRNP and livestock grazing program, BLM re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists. This additional information is incorporated into the evaluation in Section 4.2.2.2 below.

4.2.2.2 Impacts Common to All Alternatives

GHG emissions in the United States come mostly from energy production, with more than half the energy-related emissions coming from large stationary sources such as power plants (EPA 2012a). Approximately one-third of GHG emissions come from motor vehicle transportation, including motorized vehicles using the transportation network on public lands (EPA 2012a). Vehicles used for recreation, livestock grazing operations, vehicles used to support construction and operations for authorized users, and motorized access to private lands all result in emission of GHGs. Because motorized vehicle use, including vehicles used for recreation and livestock grazing operations, results in direct emissions of GHGs, any change in the amount of motorized vehicle use as a result of the WMRNP alternatives has the potential to contribute incrementally to an increase or decrease in global emissions.

As discussed in section 4.1.3, the designation of the transportation network under the WMRNP alternatives would have no discernible effect on the volume of motorized vehicle use, and therefore no effect on associated GHG emissions. The volume of motorized vehicle use on the transportation network is governed by other factors than the number of vehicle miles, including economic activity, population, and demand for recreation opportunities. Closure of a route does not necessarily mean a corresponding reduction in the miles traveled by recreationists within the region, and designation of a new route does not necessarily mean an increase in miles traveled. If certain routes in a region are closed, recreation users are likely to use other nearby open routes for the same purpose. Closure or authorization of motorized routes can affect the density of motorized vehicle use in certain areas, but are not anticipated to affect overall use based on the history of authorizations in the planning area, and therefore are not likely to adversely affect overall GHG emissions in the region. In any case, the potential for increased GHG emissions from a particular authorization for a project, and/or the access associated with the project, would be analyzed in conjunction with the project environmental review.

Motorized vehicle use can also impact the GHG balance by the removal of vegetation and biological soil crusts, which act to uptake carbon dioxide (CO_2). The removal of biological soil crusts is essentially irreversible. A study of the Mojave Desert indicated that the desert may uptake carbon in amounts as high as 100 grams per square meter per year (Wohlfahrt and others 2008). This would equate to a maximum reduction in carbon uptake, calculated as carbon dioxide (CO_2), of 1.48 metric tons of CO_2 per acre per year for areas with complete vegetation removal. However, no routes in previously undisturbed areas are proposed under the WMRNP, so there would be no adverse impacts to climate change through this process. Under each alternative, existing routes are designated as transportation linear disturbances (closed routes), and the agency will be actively pursuing rehabilitation of these routes. As these routes become re-vegetated over the long-term, the new vegetation would uptake CO_2, resulting in an overall beneficial impact to global climate change. Because routes are anticipated to be re-vegetated at the same rate under all alternatives, the uptake of CO_2 is not anticipated to vary among alternatives, in the short term. Over the longer term adverse impacts would be greater in proportion to the number of miles of routes designated available for use.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative.

Because the configuration of the transportation network would not affect GHG emissions, GHG emissions were not considered as a criterion in determining which routes would remain open and which would be closed under the various alternatives. In addition, no alternative-specific mitigation measures were developed to address GHG emissions.

Of the plan amendment decisions being considered, the following decisions would not authorize on-the-ground actions, and therefore would not result in direct emissions of greenhouse gases (GHG):

- Modification of Language Limiting Route Network to Existing Routes;
- Incorporation of the TTM Process;
- Updating OHV Area Designations;
- Identification of Plan Amendment Triggers; and
- Designation of TMAs.

These plan amendment decisions would not designate routes or authorize on-the-ground actions and therefore they would not have direct impacts to global climate change. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

The other five plan amendment decisions being considered would result in changes in on-the-ground use of motorized vehicles. These include modification of C routes, motorized use of dry lakes, the need for permits for motorized use in the Rand Mountains-Fremont Valley Management Area, allowable stopping, parking, and camping distances, and changes in grazing allotments. However, as discussed above, these decisions would not result in an increase or decrease in the amount of motorized vehicle use, and would therefore not affect GHG emissions.

Because there would be no difference in GHG emissions among the alternatives, GHG emissions are not discussed further for the individual alternatives.

Although vehicle use for livestock grazing operation results in a contribution of direct GHG emissions, this contribution would be considered de minimis. Livestock grazing operations on public lands within the West Mojave Planning Area would also generate methane gases (CH_4) from livestock flatulation and waste. These widely distributed methane emissions would not equate and would be far less than the concentrated methane emissions from a small dairy operation. Therefore, grazing operations within the planning area's contributions to methane emissions would be considered de minimis and poses no adverse impacts.

Resource-Specific Minimization and Mitigation Measures

Because no adverse direct or indirect impacts to global climate change were identified, no resource-specific minimization or mitigation measures were developed for GHG emissions in particular.

Residual Impacts After Implementation of Mitigation Measures

Because no incremental adverse impacts to global climate change were identified, there would be no residual impacts.

4.3 Soil and Water Resources

4.3.1 Soil Resources

4.3.1.1 Introduction

Affected Environment Summary

Section 3.3 describes the soil resources in the planning area. Soils in the desert function to support the ecology of the local area, as well as global carbon balance. With respect to ecology, soil resources form the habitat within which vegetation grows, and in which wildlife finds cover. With respect to carbon balance, soils not only support carbon sequestration in vegetation and biological soil crusts, but in inorganic form as well. The characteristics of soils which support these functions include grain size and texture, mineral composition, level of compaction, fertility, vegetation cover, presence of biological soil crusts, and water content. Any activities, including motorized vehicle use and livestock grazing, which may modify soil characteristics have the potential to impact resources, including the ecological and carbon sequestration functions that are supported by the soils.

Methodology

The 2005 WEMO EIS analyzed the impacts of the 5,098 mile route network evaluated in that EIS with respect to soil erosion, compaction, and other soil resource impacts. The analysis included a general discussion of the effects of OHV use on soil compaction, water erosion, mechanical displacement, wind erosion, and biological soil crusts.

In the Summary Judgment Order, the Court held that the general discussion of the impacts of OHV use on soils was adequate, but that the 2005 WEMO EIS did not evaluate the proposed route network with respect to specific locations of potentially impacted soils. The Court also made a finding that the 2005 WEMO EIS did not adequately discuss the impacts of livestock grazing on soil resources. Finally, the Court made a general finding, for all resources, that the range of route network alternatives evaluated was inadequate. No other deficiencies were identified in the soil resource analysis in the 2005 WEMO EIS.

For this SEIS for the WMRNP, BLM performed the following:

- The route designation process for each alternative included evaluation of the location of each route with respect to soils that were determined to be potentially prone to erosion. This included areas in which routes were present on slopes greater than 10 percent, as well as specific locations where soil erosion was known to occur.
- Conducted route evaluation and quantified the miles of motorized routes that could potentially impact erosion-prone soils, across four alternative route networks, ranging from 4,293 to 10,428 miles in size.
- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, and changes in conditions within the planning area. This additional information is incorporated into the evaluation in Section 4.3.1.2 below.
- Addressed cumulative impacts of both OHV use and grazing on soils, is provided in Section 4.14 below.

4.3.1.2 Impacts Common to All Alternatives

The direct sources of effects on soil resources from motorized vehicle use, including use of OHVs, result from changing the physical properties of soils through compaction, mechanical displacement, or removal of vegetation or biological soil crusts that stabilize surficial soils. These physical changes, in turn, affect rates of water infiltration into soil, potential for wind and water erosion, moisture retention in soils, and soil chemistry. The analysis presented below highlights potential adverse impacts in areas with soils of concern to managers as described in Section 3.3.1 Soil and Geology. Identification of these areas provide needed information to managers that will inform eventual future decisions for travel management in the West Mojave planning area under the Selected Alternative.

Compaction

Soil compaction can occur due to pressure exerted by animals, pedestrians, and vehicles. Areas frequently susceptible to soil compaction are motor vehicle routes, developed and undeveloped camping areas, sites for livestock watering, and mine operation sites. A far-reaching impact from vehicular travel on desert soils is soil compaction that results from the force of vehicle wheels rolling over the soil surface. The degree of soil compaction from vehicular traffic depends in part on soil characteristics such as soil particle size, particle size distribution, organic matter content, soil moisture, and soil structure. Uniform coarse-grained soils tend to be less susceptible to compaction than fine-grained or poorly-graded soils or soils that consist of a diverse range of particle types. In the latter case, smaller particles are more easily wedged among larger particles when compaction force is applied.

The immediate impact of soil compaction is an increase in soil bulk density, i.e., the packing density of soil particles. Low bulk density means that more "macropore" space is present in a soil to fill with air or water. Compacted soils with high bulk density indicate that soil has less macropore space for air and water. When motor vehicles compact soils, other soil properties begin to change as well. Compaction essentially "squishes out" the pore space between soil particles. The macropores that remain are smaller than before compaction. Reduced macropore space in a soil decreases soil volume, thus leaving a surface subsided slightly below the level of surrounding uncompacted soil, such as vehicle tracks that persist long-term on desert soil surfaces.

As a soil becomes more compacted, the shearing of soil surfaces by vehicles breaks up ("pulverizes") soil particles. With repeated vehicle passes over a vehicle trail, the sideways shearing movement of soil decreases while compaction is occurring. Soil pulverized and made finer by shearing forms small berms of loosened soil at each side of the vehicle tire. This finer material is a potential source of fugitive dust. Pulverized soil particles are frequently small enough to become windborne and can increase concentrations of particular matter in the air above expected natural concentrations.

Because soil compaction reduces the amount of water that the soil can retain, the fertility of the soil is reduced. Plant growth and habitat suitability for ground-dwelling species of wildlife diminish likewise.

Four main factors affect how the type of vehicle will compact and shear a desert soil (Nortjé et al. 2012):

- Weight of a vehicle and its load
- Tire pressure and size
- Track or trail size
- Vehicle speed

As a rule of thumb, the heavier a vehicle is, the wider and deeper is the zone of compaction. The pressure of compaction decreases with soil depth. Modifications to vehicle design, particularly to tire size, can moderate soil compaction. Large wide tires disperse compaction force from a vehicle over a larger surface area and thus reduce the depth of the zone of compaction in a soil.

Most soils, including desert soils and sands, are susceptible to compaction from repeated motorized vehicular driving or from animal trampling at sites for range improvements to benefit domestic livestock, such as watering facilities or holding corrals. Motorized routes, trails, hill-climbs, and livestock watering and holding facilities are intensely compacted. Rangeland Health determinations conducted by BLM staff in the field for EAs prepared as part of reauthorizing West Mojave grazing allotments between 2007 and 2013 demonstrated that the soil standard for Rangeland Health (43 CFR 4180) was being met allotment-wide based, with the exception of areas at or associated with watering facilities or holding corrals. These types of facilities typically occupied an area of one acre or less per facility. In addition, support areas such as staging areas, pit areas, viewing areas, and parking for event participants and viewers can become compacted. The amount of compaction depends on vehicle characteristics, amount of activity, soil type, and soil moisture content at the time of impact. Motorized vehicle activity on wet soils tends to result in greater compaction than on dry soils. Some cohesion-less sands, such as sand dunes, are very resistant to compaction whether wet or dry. Many dry lake bed soils have considerable resistance to compaction if driven on when dry.

Compaction of soils can have impacts to biological resources and water quality, as well as increase the potential for storm water flood damage. Compacted soils result in decreased water infiltration rates, which in turn reduce soil moisture levels necessary to support vegetation. Compaction can also make it more difficult or impossible for native plants to establish themselves, affecting the ability of an area to recover after vegetation has been impacted. By decreasing water infiltration rates and leaving areas denuded of vegetation, compacted soils increase storm water runoff rates which can, in turn, lead to increased storm water flow and flood damage downstream of compacted areas. Reduced infiltration leads to increased overland water flow volume during infrequent but often intense desert rainstorms. Added surface water flow during and after a storm more easily overpowers the forces of cohesion and friction holding surface soil particles together. More soil particles downslope of compacted soils are eroded and transported overland as a result. The sediment load increases in the water flow cumulatively downslope and downstream, with potential adverse impacts to water quality. Overland water flow moves to washes and streams as compacted areas upslope shed a greater amount of runoff water than they would if left undisturbed. More water volume also accelerates gully erosion in rills and creeks at "knick" points in the landscape where the slope suddenly increases. The added sediment being transported may cause water quality to decline.

Residence time is the average time that rainwater remains at the site where it falls. By infiltrating into a soil and becoming part of the groundwater, water resides on site longer. With compaction, less water infiltrates and more water flows offsite, thus shortening the average amount of time

that water remains near where it strikes the ground. A longer residence time for water benefits soil organisms and vegetation at a site. With a shorter residence time for water, the soil has less water available for seed germination and plant growth.

More runoff in the water system during rainfall lowers the threshold amount of precipitation needed for flooding to start. At a watershed scale, one cumulative impact of soil compaction from widespread vehicular traffic and the resulting shortened residence time is that flooding becomes more frequent.

De-compaction and Wind Erosion

Motorized vehicle use and livestock use can also de-compact soils by mechanical displacement and/or removal of stabilizing vegetation and crusts. Intense vehicle use in steep areas (primarily hill climbs on slopes over 20 percent) and long-term livestock watering and holding facilities displaces soil, and leaves the remaining soil vulnerable to water erosion. Water erosion of soils removes organic and nutrient material that supports vegetation, and introduces sediment load to downstream water bodies, affecting water quality. Areas identified as having potential for increased soil erosion rates are those with slopes greater than 10 percent, and those mapped by BLM as being prone to erosion.

Wind erosion of soils is a major issue in the planning area. Wind erosion occurs whenever bare, loose, dry soil is exposed to wind of sufficient speed to cause soil movement, either rolling, bouncing, saltating (lauching), or aerosolizing into the air. Wind speeds as low as 21 to 24 km per hour above the soil surface can launch medium-sized particles in soils prone to wind erosion. Medium-sized particles become detached and enter the wind stream momentarily, but then fall back to the ground by force of gravity. Return from saltation causes them to impact other particles of differing sizes and set them into motion. Fifty to 80 percent of total soil movement may result from these particulate collisions. Wind erosion rates for soils may increase as soil properties (e.g., soil bulk density) or vegetative cover change. Erosion potential is magnified when percent slope (steepness) of a site is higher or when slopes are longer. In the planning area, approximately 2.3 million acres of the overall 9.1 million acres have slopes greater than ten percent (Figure 3.3-1).

Vehicle traffic on desert soils generates fugitive airborne dust. Vehicle tires passing at even low speeds over an erodible desert soil surface provide sufficient energy to detach fine soil particles and generate dust. Especially where numbers of people gather in the desert for vehicle-based recreation activities, exposure to high concentrations of fugitive dust is likely. Fugitive dust generated on the BLM public lands may also affect communities that lie downwind.

Recent studies funded by the BLM at the Nellis Dunes Recreation Area northeast of Las Vegas, NV, shed light on the roles of soils and vehicular recreation in producing fugitive dust. Research studies covered five aspects of fugitive dust:

- Susceptibility of different soil types to produce dust during OHV riding
- Effect of different OHV types on amounts of dust production
- Effect of OHV velocities on dust production
- An estimate of the annual contribution of dust emissions stemming from OHV recreation
- An estimate of naturally-occurring arsenic in soils and in the dust produced by OHVs

Results from these studies apply specifically to conditions at Nellis Dunes Recreation Area. Some of the results may not apply to conditions at all areas in the West Mojave planning area because the soils present, the mix of vehicles used, and the chemical composition of soil minerals may differ. Methods from these studies to gather data about soils and dust and the resulting mapping products, however, show how OHV recreation managers can obtain and apply soils information for decision making in regard to protecting soils and OHV riders on public lands. The following findings from the Nellis Dunes studies bear on soil resource management in the West Mojave Desert.

- Soil texture greatly influences the amount of fugitive dust created from vehicle shearing on a desert soil. At Nellis Dunes, a four-wheeler always generates more dust on finer silt soils than on coarser sand soils. Soils with a high amount of silt have on average lighter-weight soil particles that require less wind energy to become detached soil particles and airborne. As the finer textured soil particles become airborne selectively over time, the portion of the soil with fine-textured particles decreases. As a result, fugitive dust emissions from a well-used trail usually decline over time.

- Vehicle velocity affects soil shearing and fugitive dust emissions. At or below 12 km per hour, a four-wheel vehicle causes the release of little fugitive dust on either silty soil (fine) or sandy soil (coarse) surfaces. Increasing speeds with the same four-wheeler generates greater volumes of dust from both silt and sand. The rate of increase in fugitive dust emissions from higher speeds, however, is much greater from silty soils as compared to emissions from sandy soils. This increased impact occurs even though the amount of time that the force applied from the faster moving vehicle over the soil is actually shorter.

- Effect of vehicle types is significant. Driving at any speed, a four-wheeler produces more fugitive dust emissions than a two-wheeled dirt bike over the same soil surface. The vehicle contact surface of the dirt bike with soil is smaller, but the dirt bike is also lighter weight and thus less forceful in detaching particles from the soil surface. At speeds above 20 km per hour, dust production increases exponentially more in the heavier vehicle. Interactions between soil textures, for example silt vs. sand, and different vehicle types may not always be so predictable. Experimental dune buggy results in low-dust sand environments were similar to the four-wheeler. But, on silt soils the dust emissions from the dune buggy were about one-third less than those from the four-wheeler.

- Fugitive dust emissions from vehicles are poorly described. Few data are available to account for the role of vehicular recreation and travel in producing fugitive dust at an OHV recreation area on an annual basis. At the BLM Nellis Dunes Recreation Area, researchers found that dust emissions increased most over background levels of wind-generated dust when OHVs traveled across silt soils. Soil texture was the most important factor for determining increased dust emissions when vehicles rode over soil surfaces. In contrast, OHVs were found to generate little dust from sand soils, and particularly from coarse-grained sandy soils. Winds by themselves naturally created most of the emissions coming from sand soils.

Public Health

One disease of potential health concern in California warm deserts is Valley Fever, known medically as coccidioidomycosis, a disease with initially flu-like symptoms caused by inhalation

of spores of the fungi *Coccidioides immitis* and *C. posadasii*, both originating in soils. These fungi grow and reproduce in the upper 5 to 20 centimeters of soils. Mature fungal spores can be released into the air during surface disturbing activities. Implementing dust control measures can reduce the risk of infection.

The source of concern for OHV riders in the Californian warm deserts is that the Mojave Desert lies midway between the two focal areas of the disease: the San Joaquin Valley in California and the eastern Sonoran Desert in Arizona. Because OHV riders are mobile travelers, they may visit OHV recreation sites in both those focal areas as well as OHV sites in the Californian warm deserts. The only way to contract the disease is by inhalation of dust containing fungus spores. The disease does not spread by contagion from person to person.

About ten percent of people exposed to the fungal spores develop severe symptoms of the disease and one percent of people experience the disease spreading to other organs of the body. Motorized vehicular recreation may disturb soils that have naturally high concentrations of the fungal species that cause valley fever and thus increase personal exposure to spores.

A recent study of the Tucson, AZ, area has found that nine percent of soils samples contained valley fever spores. Studies, involving soil scientists, to examine the spectrum of soils in California deserts that are likeliest to host fungus spores are not yet available. However, the NRCS is developing a predictive algorithm to identify soils most likely to present health risks to people. In the San Joaquin Valley, the valley fever fungus appears to be particularly present in saline or alkaline soils.

Potential human exposure to Valley Fever as a result of mechanical displacement of infected soils could be increased if people gathered in close proximity to routes, such as during organized OHV events, or if route use occurred in close proximity to residences.

In addition to biological hazards, soils may contain hazardous constituents which may pose an inhalation hazard. Most toxic air pollutants have no known safe levels and some may accumulate in the human body from repeated exposures. Some toxic minerals have naturally high concentrations in desert soils or in areas where waste from abandoned mining operations remains on the ground surface. Scientists from the University of Nevada and from the USGS are currently studying the extent and concentrations of dust containing naturally-occurring arsenic, asbestos-like minerals, and perchlorate minerals in the Mojave Desert to determine the risks to people's health.

Two specific mineral types are potentially toxic particulates in desert dusts where OHV recreation takes place: arsenic-containing minerals and minerals that have the pointed, fibrous crystal shape of asbestos. Scientists working in the Mojave Desert in California have found several areas where concentrations of naturally occurring arsenic are high. Owens Lake is, for example, one arsenic hotspot. Areas with motorized vehicular trails passing through abandoned gold and silver mine sites often have an environmental legacy of exposed mine wastes containing elevated levels of toxic metals and metalloids including arsenic.

Effect of Route Designations

Because motorized vehicle use, including OHVs and livestock watering and holding facilities causes soil compaction, mechanical displacement, and removal of stabilizing materials, any change in the amount of motorized vehicle use or development of additional livestock watering and holding facilities as a result of the WMRNP alternatives has the potential to have direct

effects on soil resources, as well as resulting in indirect effects on air quality, water quality, storm water flow, vegetation, and human health. New or increased motorized vehicle use in places that have not previously been subjected to motorized vehicle use could result in either compaction or de-compaction, depending on the characteristics of the soil, the slope, the type of motorized vehicle, and the manner in which the vehicle is used. Continued motorized vehicle and livestock use in already compacted areas may not lead to additional compaction, but it would ensure that natural recovery does not occur. Continued motorized vehicle use on loose soils would lead to ongoing mechanical displacement and loss of soil through erosion, which are direct, adverse impacts to soil resources. Indirect impacts on air quality, water quality, storm water flow, vegetation, and human health would be adverse, and would continue until the affected soils were allowed to recover. Reductions in motorized vehicle and livestock use would lead, over time, to restoration of original soil conditions, which would be a beneficial effect. Closure of routes to motorized vehicles and grazing allotments would allow soils to gradually recover, and therefore have a beneficial impact on soil resources. Active restoration, including de-compaction by raking or other mechanical means, can speed this process.

The significance of the impact on soil resources differs depending on whether impacts occur in close proximity to sensitive resources. Compaction and erosion that adversely affects vegetation would be more or less significant depending on the presence or absence of sensitive plant species, unusual plant assemblages, or riparian areas. Increased introduction of sediment due to water erosion would be more or less significant depending on the proximity to surface water bodies or aquatic resources. Increases in PM_{10} emissions due to wind erosion can have regional effects, and would not be limited to the local area.

The alternatives being evaluated as part of the WMRNP would result in differences in the mileage and specific locations of routes that are available for motorized vehicle use, or are closed by being designated as transportation linear disturbances. The designation of specific routes as part of the transportation network under the WMRNP alternatives would affect the overall mileage of routes on which motorized vehicle use is allowed, as well as specific locations for motorized vehicle use. Therefore, direct impacts on soil resources, and resulting indirect impact to other resources, would vary among the alternatives. Under all alternatives, there would be changes in impacts to soil resources in the future as new routes are designated for motorized use, or existing routes are designated as transportation linear disturbances. Some of these changes could potentially occur within close proximity to sensitive resources, and would therefore have adverse or beneficial effects on those resources. In the future, after implementation of the project, new motorized routes would only be designated as a result of new requests for authorized uses, and closure of existing routes would only occur as authorized users cease operations and allow their authorized use to expire. The total mileage of designated routes that would be added or removed from the network as a result of these authorizations is expected to be minimal compared to the current baseline inventory. In the case of new authorizations, including range improvements, BLM's authorization would only be provided following environmental review and consideration of soil resource impacts. Therefore, the specific resources and impacts would be considered at the time of authorization, and minimization or mitigation measures would be developed and applied to avoid or reduce adverse impacts.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the

motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. In that analysis, soil resource impacts were considered as a criterion in determining which routes would remain open and which would be closed under the various alternatives. Soil resource impacts were considered in several ways. The potential for increased soil erosion was considered by evaluating route locations with respect to slope, with areas of slope greater than 10 percent or areas with noted soil erosion issues being considered for minimization and mitigation measures such as route closure or other measures. In addition, the WMRNP alternatives include consideration of stopping and parking distances from routes in order to minimize disturbance in previously undisturbed areas, thus reducing the potential for soil compaction. Therefore, minimization of soil resource impacts was a factor both in development of the alternative route networks, in the specific limitations placed on routes in those networks, and in mitigation measures to be implemented on routes being designated as available for motorized use. These measures differ among the alternatives, and are therefore discussed in more detail in Sections 4.3.1.3, 4.3.1.4, 4.3.1.5, and 4.3.1.6 below.

Effect of Livestock Grazing

Grazing animals can apply compressional and shear forces to the soil and biological soil crusts (BSCs). These direct impacts are limited to congregation areas (corrals and watering troughs). Indirect impacts to soils and BSCs would occur in a highly distributed manner. Biological soil crust response to these disturbances is highly variable. Moisture and burial are two important factors relating to the degree of impact. With coarse textured sandy soils, moist crusts are better able to withstand disturbances than dry soils (Belnap 2003 and BLM 2001). Many of the biological crust species are not mobile and cannot survive burial. However, as Belnap (2002 and 2005 and BLM 2001) noted, the hot desert crusts are simple crusts that are highly mobile and quick to recover from disturbance. The large, filamentous cyanobacteria can move 5mm per day if it is wet (Belnap 2003 and BLM 2001). Although rain and moist soils occur at the start of the grazing season, grazing in the later part of the spring can reduce the cover of biological soil crusts because the soils are dry. These simple crusts would likely recover within days once the rain returns because the crusts are simple, site recovery outside of congregation areas should be such that the impact would not be substantial (BLM -TR 1730-2 2001).

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and mitigation measures that may be applied for each route during implementation of the WMRNP, were described in Table 2.1-4. For soil resources, these include:

- Select alternative route to minimize off-route disturbance;
- Implement seasonal restrictions, designated as motorized only by permit, or designate closure under certain conditions (such as when route is wet);
- Permit lower intensity use;
- Install access type restrictor;

- Install/implement Erosion Prevention Best Management Practices, Re-align route to minimize impact to environmentally sensitive area;
- Restrict stopping/parking/camping;
- Add parking/camping area;
- Install barriers or fencing;
- Narrow route;
- Install educational information such as signs;
- Determination that no additional minimization and mitigation measure is needed based on area or site evaluation; and
- Limit livestock congregation areas in grazing allotments to those required to facilitate the operation and maintain livestock distribution.

Residual Impacts after Implementation of Mitigation Measures

Some residual effects in impacted areas are likely to continue after application of mitigation measures, both with continued motorized vehicle use, and following closure of routes. Although continued motorized vehicle use in areas subjected to compaction may not result in increases in compaction, it also would not allow recovery in those areas. The same is true in areas where de-compaction and removal of stabilizing surfaces has increased the potential for erosion. Even closure of routes in those areas may not result in recovery in the short-term, unless active rehabilitation efforts are taken. If routes are closed, mechanical displacement of soils and potential exposure to Valley Fever would be reduced in those areas. Residual impacts would continue at existing congregation areas within grazing allotments in the planning area.

The evaluation of impacts common to all alternatives points out that many of the impacts associated with soil resources are indirect impacts that occur to other resources (air quality, water quality, vegetation, or human health) as a result of soil compaction, disturbance, or erosion.

4.3.1.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to soil resources. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered. Part of that framework is consideration of soils that are well-suited and ill-suited for being part of a designated route system for diverse reasons such as topography, erosion rates, hazards to public health, associated sensitive wildlife species, and other features taken up individually below.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider soil resources and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit soil resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. Changes to motorized vehicle use in the locations specified in these decisions under the action alternatives do have the potential to impact soil resources in those locations. However, the routes in the Rand-Fremont system and the currently designated "C" routes are not prone to soil erosion or other sensitive soils factors, and additional protective measures such as fencing along major arteries and SRP measures have been implemented to address potential issues that might arise adjacent to the routes; therefore, the No Action Alternative would have no direct or indirect impact to soil resources, in addition to the impacts identified in the 2006 WEMO Plan.

Livestock Grazing: Under the No Action alternative, on-going but highly localized direct impacts to soils from compaction by livestock would continue at congregation areas in active grazing allotments. Limited, indirect impacts to soils and BSCs would continue in active grazing allotments.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that many of the impacts associated with soil resources are indirect impacts that occur to other resources (air quality, water quality, vegetation, or human health) as a result of soil compaction, disturbance, or erosion. The indirect effects of compaction, disturbance, or erosion of soils on those resources are considered in their separate resource sections. For instance, wind erosion of disturbed soils is a component of PM_{10} emissions evaluated in the air quality analysis.

The primary direct impact on soils associated with motorized vehicle use is the loss of soil through mechanical displacement and erosion. As discussed in Chapter 2, areas identified as having potential for soil loss due to mechanical displacement or erosion are those with slopes greater than 10 percent, and those mapped by BLM as having documented erosion issues. Therefore, because the specific locations of motorized routes vary among the alternatives, some alternatives may have a greater adverse or beneficial effect on soil resources. The mileage of

routes associated with those areas that are deemed to have the potential for soil loss under the No Action Alternative is presented in Table 4.3-1.

Table 4.3-1. Alternative 1 – Acreage and Mileage of Routes in Areas with Potential for Soil Loss

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Routes in Areas with Greater than 10 Percent Slope	716.9 miles	29.1 miles	0 miles	7.2 miles	1673.3 miles

Alternative 1 Minimization and Mitigation Measures

Table 2.3-1 describes the network-wide minimization and mitigation measures that are currently specified in the CDCA Plan, WEMO Plan, and/or the Court's Remedy Order, and which are therefore applicable under Alternative 1, the No Action Alternative. Whether they were applied during the route designation process or are mitigation measures, these measures would reduce soil compaction, disturbance, or erosion that directly lead to soil loss and indirect adverse impacts to other resources. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and limiting stopping and parking to 50 feet or less from route centerlines in DWMAs and 300 feet outside of DWMAs reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for soil loss or indirect effects to other resources in new areas as compared to pre-2006 conditions before these limitations were enacted. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific soil resource impacts, including direct soil loss, compaction, disturbance, and erosion, as well as indirect impacts to other resources from these direct impacts, are considered before authorizing new motorized routes.

Limit livestock congregation areas in grazing allotments to those required to facilitate the operation and maintain livestock distribution.

4.3.1.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to soil resources. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;

- Clarify the manner in which future route network modifications consider soil resources and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit soil resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to soil resources from each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to soil resources. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The soil resource impacts of these decisions under Alternative 2 are as follows:

PA VII: Competitive events may authorize large numbers of vehicles traveling at high speed. These events may potentially increase soil compaction and erosion in a specific area of the event. Problems stemming from increased water runoff after the event(s) may cause excessive rilling and gullying. The BLM may have to maintain, at higher cost, C routes more frequently than surrounding designated routes. The BLM anticipates that the overall number of SRP applications will not increase. Rather, it is likely that several applicants may request to use C routes in addition to the adjacent Open Area for courses. There should be no measurable increase in the number of OHV riders using public land in the area. Additionally, designating C routes does not authorize individual SRP events to use these routes. Further analysis of impacts to soil resources will be part of the SRP permitting process. No direct impacts to soil resources would stem from designating C routes.

Alternative 2 would institute a seasonal restriction on the use of the currently designated C routes for competitive motorized events managed under conditions of a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January only. The seasonal limitations on C routes may reduce their use for racing events, and thus have locally beneficial impacts on soil resources in those areas.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the single remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be no longer be available for OHV use under Alternative 2. The elimination of the Johnson Valley to Parker event may reduce soil compaction and other soil disturbances in that corridor. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any effect on soil resources.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. In general, dry lakebeds are flat and therefore are not prone to soil erosion, so motorized use of vehicles on the lakebeds is not expected to increase erosion of soils. However, disturbance of soils on dry lakes by wind erosion is very significant on playas, and the wind erosion worsens when salt crusts from the last flood event are crushed by motor vehicles exposing fine sediments under the crust to winds blustering across a playa unobstructed by surface roughness. Therefore, closure of Koehn dry lake would reduce local air emissions associated with wind erosion in that area. Because Koehn lakebed is currently receiving relatively light use, the amount of displaced use to other routes would be low. Therefore, this plan amendment decision is not expected to have an indirect, adverse impact on soil resources by increasing the recreational use of routes in sensitive soil areas.

PA IX: The routes in the Rand-Fremont system are not prone to soil erosion or other sensitive soils factors, and additional protective measures such as fencing along major arteries and SRP measures have been implemented to address potential issues that might arise adjacent to the routes; therefore Alternative 2 would have no direct or indirect impact to soil resources.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. Although users are currently permitted to stop, park, and camp up to 300 feet from routes in areas prone to soil erosion, they are unlikely to do so because those are areas of steep slopes, which are the area most prone to soil erosion. This plan amendment may have beneficial impacts by reducing motorized travel on undisturbed areas outside of designated routes, but the beneficial impact is expected to be small.

PA XI: Under this alternative, on-going but highly localized direct impacts to soils from compaction by livestock would continue at congregation areas in active grazing allotments. Discontinuing livestock grazing on portions of the Ord Mountain, Cantil Common, Shadow Mountain Allotments, a small portion of the Johnson Valley Allotment and the entire Harper Lake and Cronese Lake Allotments would allow for the slow de-compaction of soils at

previously used water troughs and corral facilities associated with these allotments. Limited, indirect impacts to soils and BSCs would continue in active grazing allotments. The scope and relative impacts of these effects are roughly equivalent to the number of acres that would still be subject to grazing under this alternative (see Table 4.7-1).

Alternative 2 Route Designation

The mileage of routes associated with those areas that are deemed to have the potential for soil loss under Alternative 2 is presented in Table 4.3-2.

Table 4.3-2. Alternative 2 - Acreage and Mileage of Routes in Areas with Potential for Soil Loss

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Routes in Areas with Greater than 10 Percent Slope	510.4	107.8	8.7	16.9	1787.4

Alternative 2 Minimization and Mitigation Measures

Table 2.3-5 describes the network-wide minimization and mitigation measures to be applied under Alternative 2. Many of these measures would act to reduce soil compaction, disturbance, or erosion that lead to direct soil loss or indirect adverse impacts to other resources. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, limiting permitted events to OHV Open Areas only, and implementing stopping and parking limits of 50 feet from route centerlines would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for soil loss or indirect effects to other resources in new areas. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific soil resource impacts, including direct soil loss, as well as compaction, disturbance, and erosion leading to indirect impacts to other resources, are considered before authorizing new motorized routes.

Limit livestock congregation areas in grazing allotments to those required to facilitate the operation and maintain livestock distribution.

4.3.1.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on soil resources is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The soil resource impacts of these decisions under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. For the C routes northeast of the Spangler Hills Open Area, this decision would result in the potential for increased soil erosion on 71.6 miles of routes. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known the soil resource impacts of those routes would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. In general, the lakebeds are flat, and therefore are not prone to soil erosion, so motorized use of vehicles on the lakebeds is not expected to have soil resource impacts. However, disturbance of soils on dry lakes by wind erosion is very significant on playas, and the wind erosion worsens when salt crusts from the last flood event are crushed by motor vehicles exposing fine sediments under the crust to winds blustering across a playa unobstructed by surface roughness. Therefore, this decision could have an adverse effect on soil resources on the lakebeds.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. There are no soils in this area which are prone to erosion. Therefore, eliminating the permit requirement would not have any impact on soil resources.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). In general, although users are currently permitted to stop, park, and camp up to 300 feet from routes in areas prone to soil erosion, they are unlikely to do so, because those are areas of steep slopes. Therefore, although this plan amendment decision may have beneficial impacts by reducing

motorized travel on undisturbed areas outside of designated routes, the beneficial impact is expected to be limited.

PA XI: Alternative 3 would discontinue livestock grazing on currently inactive allotments, which include Buckhorn Canyon, Harper Lake, Cronese Lake, Cady Mountain, Johnson Valley, Double Mountain and Oak Creek Allotments. Under this alternative, on-going but highly localized direct impacts to soils from compaction by livestock would continue at congregation areas in active grazing allotments. The discontinuation of livestock grazing on inactive allotments would ensure that no future direct and indirect impacts would occur on those allotments. Limited, indirect impacts to soils and BSCs would continue in active grazing allotments. The scope and relative impacts of these effects are roughly equivalent to the number of acres that would still be subject to grazing under this alternative (see Table 4.7-1).

Alternative 3 Route Designation

The mileage of routes associated with those areas that are deemed to have the potential for soil loss under Alternative 3 is presented in Table 4.3-3.

Table 4.3-3. Alternative 3 - Acreage and Mileage of Routes in Areas with Potential for Soil Loss

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Routes in Areas with Greater than 10 Percent Slope	1636.9	46.4	10.4	24.8	739.5

Alternative 3 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 3. Many of these measures would act to reduce soil compaction, disturbance, or erosion that lead to direct soil loss or indirect adverse impacts to other resources. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, limiting permitted events to OHV Open Areas only, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for soil loss or indirect effects to other resources in new areas. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific soil resource impacts, including direct soil loss, as well as compaction, disturbance, and erosion leading to indirect impacts to other resources, are considered before authorizing new motorized routes.

Limit livestock congregation areas in grazing allotments to those required to facilitate the operation and maintain livestock distribution.

4.3.1.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on soil resources is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on soil resources. However, this decision would make it easier for BLM to consider soil resource impacts in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on soil resources.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The soil resource impacts of these decisions under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. Alternative 4 would allow for a potential increase in erosion on 57.9 miles of routes. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2. The soil resource impacts at Cuddeback, Coyote, and Chisholm Trail Lake lakebeds would be the same as those described for Alternative 3, which would also designate these lakebeds as open to motorized vehicles.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. The impacts of this decision would be the same as those discussed for Alternative 3.

PA XI: Under Alternative 4, on-going but highly localized direct impacts to soils from compaction by livestock would continue at congregation areas in active grazing allotments. Limited, indirect impacts to soils and BSCs would continue in active grazing allotments. The scope and relative impacts of these effects are roughly equivalent to the number of acres that would still be subject to grazing under this alternative (see Table 4.7-1).

Alternative 4 Route Designation

Section 4.3.1.2 described the general impacts to soil resources that are common to all alternatives. That analysis concluded that many of the impacts associated with soil resources are indirect impacts that occur to other resources (air quality, water quality, vegetation, or human health) as a result of soil compaction, disturbance, or erosion. The effect of compaction, disturbance, or erosion of soils on those resources is considered in their separate resource sections. For instance, wind erosion of disturbed soils is a component of PM_{10} emissions evaluated in the air quality analysis.

The primary direct impact on soils associated with motorized vehicle use is the loss of soil through mechanical displacement and erosion. As discussed in Chapter 2, areas identified as having potential for soil loss due to mechanical displacement or erosion are those with slopes greater than 10 percent, and those mapped by BLM as having documented erosion issues. Therefore, because the specific locations of motorized routes vary among the alternatives, some alternatives may have a greater adverse or beneficial effect on soil resources. The mileage of routes associated with those areas that are deemed to have the potential for soil loss under Alternative 4 is presented in Table 4.3-4.

Table 4.3-4. Alternative 4 - Acreage and Mileage of Routes in Areas with Potential for Soil Loss

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Routes in Areas with Greater than 10 Percent Slope	817.5	41.3	15.8	8.3	1553.7

Alternative 4 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 4. Many of these measures would act to reduce soil compaction, disturbance, or erosion that lead to direct soil loss or indirect adverse impacts to other resources.

Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, limiting permitted events to OHV Open Areas only, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for soil loss or indirect effects to other resources in new areas. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific soil resource impacts, including direct soil loss, as well as compaction, disturbance, and erosion leading to indirect impacts to other resources, are considered before authorizing new motorized routes.

Limit livestock congregation areas in grazing allotments to those required to facilitate the operation and maintain livestock distribution.

4.3.2 Water Resources

4.3.2.1 Introduction

Affected Environment Summary

Section 3.3 describes the water resources in the planning area, including groundwater, surface water, and riparian areas. The planning area is very arid, with limited precipitation and few surface water bodies. Nearly all developed water sources in the area are accessed from groundwater, and much of the groundwater in the regional aquifers outside of the Mojave River floodplain is not recharged by current precipitation. Most of the biological resources in the area, including state or federally listed and BLM sensitive species, are dependent upon the presence of groundwater either directly or for their habitat. The only prominent surface water body in the planning area is the Mojave River, which originates near the southern boundary of the planning area. Most surface water channels in the area are ephemeral, and even the above ground flow of the Mojave River is intermittent in most places. Perennial flows occur only near Victorville, in the vicinity of Camp Cady, and in Afton Canyon.

Methodology

The 2005 WEMO EIS analyzed the water quality impacts of the 5,098 mile route network evaluated in that EIS. The analysis included a general discussion of the effects of the proposed action on water quality, as a result of soil erosion.

Similar to soil resources, the Court held that the general discussion of the impacts to water quality was adequate, but that the 2005 WEMO EIS did not perform an evaluation of the proposed route network with respect to specific locations of potentially impacted water resources. The Court also made a general finding, for all resources, that the range of route network alternatives evaluated was inadequate. No other deficiencies were identified in the water resource analysis in the 2005 WEMO EIS.

For this SEIS for the WMRNP, BLM performed the following:

- The route designation process for each alternative included evaluation of the location of each route with respect to water bodies and desert washes.
- Conducted the evaluation, and quantified the miles of motorized routes in desert washes across four alternative route networks ranging from 4,293 to 10,428 miles in size.

- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, and changes in conditions within the planning area. This additional information is incorporated into the evaluation in Section 4.3.2.2 below.

4.3.2.2 Impacts Common to All Alternatives

Water quality impacts associated with motorized vehicle and livestock use are primarily associated with increases in sediment released to surface water bodies by storm water erosion. In general, increased storm water erosion is an indirect effect of soil resource impacts discussed in Section 4.3.1. Compaction of soils associated with motorized vehicle and livestock use can lead to increased storm water runoff rates which, in turn, can have increased erosional potential. In addition, motorized vehicle and livestock use can de-compact soils or otherwise remove vegetation, crusts, or other stabilizing features that protect soil from erosion. These effects are exacerbated when the disturbance occurs directly in, or adjacent to, flowing streams or ephemeral desert washes.

OHV use can also increase erosion of soil through creation of vehicle cuts and tracks (Ouren and others 2007). These can act as conduits for runoff, concentrating storm water flow. Once rills form and re-direct storm water flow, erosion can make the rills even deeper, exacerbating the problem. In extreme cases, the route itself can become the primary storm water drainage, completely re-configuring the drainage system in an area. This can impact water quality downstream through sedimentation, and can also create a deficit in soil moisture and infiltration.

Motorized vehicle use on the transportation network also requires the use of petroleum fuels which, if released, can impact surface water or groundwater quality (Ouren and others 2007). In most cases, motorized vehicles carry very limited volumes of these fuels, so the threat to water quality is minor. Fueling is generally done at commercial service stations, which have precautions in place to avoid fuel releases. In some cases, such as organized events, fueling of OHVs can be done from small containers or tanks carried by trucks. In these cases, the types of precautions available at commercial fueling stations would not be in place. However, the volume of fuel handled is still expected to be limited.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. In that analysis, water quality impacts were considered as a criterion in determining which routes would remain open and which would be closed under the various alternatives. Water quality impacts were considered by evaluating route locations with respect to proximity to desert washes, and either placing limitations or closing routes that are parallel to, or predominantly within, a wash. In addition, the WMRNP alternatives include consideration of stopping and parking distances from routes in order to minimize disturbance in previously undisturbed areas, thus reducing the potential for soil erosion, which can impact water quality. Therefore, minimization of water quality impacts was a factor both in development of the alternative route networks, and in the specific limitations placed on routes in those networks. These minimization

and mitigation measures differ among the alternatives, and are therefore discussed in more detail in Sections 4.3.2.3, 4.3.2.4, 4.3.2.5, and 4.3.2.6 below.

Livestock Grazing

Livestock grazing and native wildlife can have a direct, negative impact to water quality due to their presence and use at undeveloped springs and creeks from the potential release of fecal coliform contamination into natural water sources. Most developed water sources have been fenced and the water piped to a trough to protect the sources from livestock impacts to soils, vegetation and limit the release of fecal coliform. The sampling of chemical constituents is typically not occurring during the PFC assessment process, so the direct impacts from livestock grazing and the release of fecal coliform is not known. Unidentified levels of fecal coliform contamination are probable, both from wildlife and from livestock. Most of the developed spring sources are protected from substantial levels of contamination from livestock by fencing or natural/man-made features where water is then piped to a trough. Overall, impacts to water quality from livestock grazing at protected spring sources is considered nominal because spring sources are protected from direct access by livestock. There is some level of de-watering from spring developments and the pumping of ground water in the form of wells for livestock use. This indirect impact has not been quantified but can be substantial over long periods of time.

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4. For water resources associated with desert washes, these include:

- Re-align route to avoid environmentally sensitive area;
- Install barriers and maintain existing barriers;
- Remove Attractants;
- Install educational information such as signs;
- Install step-over;
- Install fencing;
- Seasonal or complete closure;
- Monitor the route for signs of increasing impacts to a sensitive resource;
- Determination that no additional minimization or mitigation measure is needed based on site evaluation; and
- Exclude livestock by fencing unprotected natural springs and other natural sources to protect and maintain water quality where feasible.

Residual Impacts After Implementation of Mitigation Measures

Some residual effects in desert wash areas are likely to continue after application of mitigation measures, both with continued motorized vehicle use, and following closure of routes. Motorized vehicle use in desert washes would continue to create the potential for erosion of

those areas. Closure of routes in those areas may not result in recovery in the short-term, unless active rehabilitation efforts are taken.

4.3.2.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to water resources. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider water resources and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit water resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. Changes to motorized vehicle use in the locations specified in these decisions under the action alternatives do have the potential to impact water resources in those locations. However, no water resources are found along the current designated "C" routes or the designated Rand-Fremont routes system, therefore no impacts to water resources are anticipated as a result of the No Action alternative.

Livestock grazing and native wildlife can have a direct, negative impact to water quality as discussed above in Section 4.3.2.2, Impacts Common to All Alternatives.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that motorized vehicles can have adverse impacts on surface water quality, especially if ground disturbance or fuel releases occur in close proximity to water bodies. The mileage of routes associated with desert washes under the No Action Alternative is presented in Table 4.3-5.

Table 4.3-5. Alternative 1 - Miles of Routes in Proximity to Desert Washes

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Parallel to or Predominantly in a Wash	329.4	53.5	0	0	483.7

Alternative 1 Minimization and Mitigation Measures

Table 2.3-1 describes the network-wide minimization and mitigation measures that are currently specified in the CDCA Plan, WEMO Plan, and/or the Court's Remedy Order, and which are therefore applicable under Alternative 1, the No Action Alternative. Whether they were applied during the route designation process or are mitigation measures, these measures would act to reduce soil compaction, disturbance, or erosion that lead to degradation of water quality. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 300 feet outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for water quality impacts, as compared to pre-2006 conditions before these limitations were enacted. However, motorized vehicle use in washes is currently permitted under the No Action Alternative. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific water quality impacts are considered before authorizing new motorized routes.

Exclude livestock by fencing unprotected natural springs and other natural sources to protect and maintain water quality where feasible.

4.3.2.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to water resources. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;

- Clarify the manner in which future route network modifications consider water resources and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit water resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to water resources from each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to water resources. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The water resource impacts of these decisions under Alternative 2 are as follows:

PA VII: It is anticipated that the overall number of SRP applications will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to water resources.

Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. The seasonal limitations on C routes may reduce their use for motorized events, and thus have localized beneficial impacts on water resources in those areas.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. The elimination of the Johnson Valley to Parker event may reduce soil disturbance and erosion that occurs in that area. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any effect on water resources.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. In general, the lakebeds are flat, and are not associated with desert washes. In addition, although the lakebeds can become filled with water, they would not be used by motorized vehicles during times when they are flooded. As a result, motorized use of vehicles on the lakebeds is not expected to have water resource impacts. Therefore, this decision would not have any effect on water resources on the lakebeds. Because Koehn lakebed is currently receiving relatively light use, the amount of displaced use to other routes would be low. Therefore, this plan amendment decision is not expected to have an indirect, adverse impact on water resources by increasing the recreational use of routes in desert washes.

PA IX: No water resources are found along the designated Rand-Fremont routes system, therefore no impacts to water resources are anticipated as a result of Alternative 2.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing the potential for erosion that could impact water quality. This decision would also reduce the amount of new disturbance that would occur in desert washes, having a similar reduction in water quality impacts. The effect of these actions would be a net beneficial impact on water resources.

PA XI: See Section 4.3.2.2, Impacts Common to All Alternatives.

Alternative 2 Route Designation

Section 4.3.2.2 described the general impacts to water resources that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on surface water quality, especially if disturbance or releases occur in close proximity to water bodies. The mileage of routes associated with desert washes under Alternative 2 is presented in Table 4.3-6.

Table 4.3-6. Alternative 2 - Miles of Routes in Proximity to Desert Washes

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Parallel to or Predominantly in a Wash	184.6	12.9	1.9	2	667.6

Alternative 2 Minimization and Mitigation Measures

Table 2.3-5 describes the network-wide minimization and mitigation measures that would be applied under Alternative 2. Many of these measures would act to reduce soil compaction, disturbance, or erosion that lead to degradation of water quality. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping, parking, and implementing stopping and parking limits of 50 feet from route centerlines would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for water quality impacts. In addition, Alternative 2 would consider motorized vehicle use in washes on a case-by-case basis, as opposed to allowing motorized vehicles in all washes, which is currently permitted under the No Action Alternative. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific water quality impacts are considered before authorizing new motorized routes.

Exclude livestock by fencing unprotected natural springs and other natural sources to protect and maintain water quality where feasible.

4.3.2.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on water quality is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The water quality impacts of these decisions under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. There are no

water resources associated with these areas, so the plan amendment would not have any adverse impacts to water resources. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known the water quality impacts of those routes would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. In general, the lakebeds are flat, and are not associated with desert washes. In addition, although the lakebeds can become filled with water, they would not be used by motorized vehicles during times when they are flooded. As a result, motorized use of vehicles on the lakebeds is not expected to have water resource impacts. Therefore, this decision would not have any effect on water resources on the lakebeds.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. There are no water resources present in this area. Therefore, eliminating the permit requirement would not have any impact on water resources.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing the potential for erosion that could impact water quality. This decision would also reduce the amount of new disturbance that would occur in desert washes, having a similar reduction in water quality impacts. The effect of these actions would be a net beneficial impact on water resources.

PA XI: See Section 4.3.2.2, Impacts Common to All Alternatives.

Alternative 3 Route Designation

Section 4.3.2.2 described the general impacts to water resources that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on surface water quality, especially if disturbance or releases occur in close proximity to water bodies. The mileage of routes associated with desert washes under Alternative 3 is presented in Table 4.3-7.

Table 4.3-7. Alternative 3 - Miles of Routes in Proximity to Desert Washes

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Parallel to or Predominantly in a Wash	611	48.7	2.4	1.2	218.7

Alternative 3 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 3. Many of these measures would act to reduce soil compaction, disturbance, or erosion that lead to degradation of water quality. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for water quality impacts. In addition, Alternative 3 would consider motorized vehicle use in washes on a case-by-case basis, as opposed to allowing motorized vehicles in all washes, which is currently permitted under the No Action Alternative. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific water quality impacts are considered before authorizing new motorized routes.

Exclude livestock by fencing unprotected natural springs and other natural sources to protect and maintain water quality where feasible.

4.3.2.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on water resources is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on water resources. However, this decision would make it easier for BLM to consider water quality

impacts in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on water resources.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The water resource impacts of these decisions under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. There are no water resources associated with these areas, so this decision would not have any adverse impacts to water resources. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2. The water resource impacts at Cuddeback, Coyote, and Chisholm Trail Lake lakebeds would be the same as those described for Alternative 3, which would also designate these lakebeds as open to motorized vehicles. In general, the lakebeds are flat, and are not associated with desert washes. In addition, although the lakebeds can become filled with water, they would not be used by motorized vehicles during times when they are flooded. As a result, motorized use of vehicles on the lakebeds is not expected to have water resource impacts.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. The impacts of this decision would be the same as those discussed for Alternative 3.

PA XI: Livestock and native wildlife can have a direct, negative impact to water quality due to their presence and use at undeveloped springs and creeks from the potential release of fecal coliform contamination into natural water sources. Most developed water sources have been fenced and the water piped to a trough to protect the sources from livestock impacts to soils, vegetation and limit the release of fecal coliform. Under this alternative, the need to water livestock would be reduced from the closure of the Harper Lake and Cronese Lake Allotments, and a portion of the Johnson Valley Allotment. The sampling of chemical constituents is

typically not occurring during the PFC assessment process, so the direct impacts from livestock grazing and the release of fecal coliform is not known. Unidentified levels of fecal coliform contamination are probable, both from wildlife and from livestock. Most of the developed spring sources are protected from substantial levels of contamination from livestock by fencing or natural/man-made features where water is then piped to a trough. Overall, impacts to water quality from livestock grazing at protected spring sources is considered nominal because spring sources are protected from direct access by livestock. There is some level of de-watering from spring developments and the pumping of ground water in the form of wells for livestock use. This indirect impact has not been quantified but can be substantial over long periods of time.

Alternative 4 Route Designation

Section 4.3.2.2 described the general impacts to water resources that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on surface water quality, especially if disturbance or releases occur in close proximity to water bodies. The mileage of routes associated with desert washes under Alternative 4 is presented in Table 4.3-8.

Table 4.3-8. Alternative 4 - Miles of Routes in Proximity to Desert Washes

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Parallel to or Predominantly in a Wash	351.8	62.9	10.7	2.5	439.1

Alternative 4 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 4. Many of these measures would act to reduce soil compaction, disturbance, or erosion that lead to degradation of water quality. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for water quality impacts. In addition, Alternative 3 would consider motorized vehicle use in washes on a case-by-case basis, as opposed to allowing motorized vehicles in all washes, which is currently permitted under the No Action Alternative. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific water quality impacts are considered before authorizing new motorized routes.

Exclude livestock by fencing unprotected natural springs and other natural sources to protect and maintain water quality where feasible.

4.3.3 Riparian Areas

4.3.3.1 Introduction

Affected Environment Summary

Section 3.3 describes the riparian areas in the planning area. Aquatic wetland and riparian habitat within the planning area is primarily located along the Mojave River and along the Sierra Mountain Front. Springs primarily occur in the mountains, and most of them support an area of riparian vegetation near the water source and in a linear zone leading downstream from the water source. The extent of these areas is usually limited, as evaporation and infiltration of the water removes it from the surface.

The riparian areas in the planning area, including the results of Proper Functioning Condition (PFC) assessments performed in 2012 through 2014, are listed in Table 3.3-1. Wetland and riparian habitats can be rated under PFC assessments as at-risk or non-functional due to vehicle use, camping, parking, route proliferation, and indirect impacts that may be associated with casual access by vehicles, exploratory mining activity, or distribution of riparian obligate invasive plants (*Tamarix* sp., *Arrundo donax*, etc.). Of the riparian areas, two springs within the Rattlesnake Canyon Grazing Allotment were rated as "functioning at risk" due to road encroachment.

Methodology

The 2005 WEMO EIS analyzed the impacts of the 5,098 mile route network evaluated in that EIS with respect to riparian areas and springs. The analysis included a discussion of the effects of OHV use on riparian areas and springs, including identification of specific riparian areas and springs that were impacted by OHV use.

Similar to soil resources, the Court held that the analysis of impacts to specific riparian areas and springs flowing from the proposed route network and grazing was inadequate. In addition, the Remedy Order (pg. 15) required BLM to implement additional information gathering and monitoring regarding riparian areas, including new proper functioning condition (PFC) assessments for all of the springs and seeps in the WEMO area. Finally, the Court made a general finding, for all resources, that the range of route network alternatives evaluated was inadequate. No other deficiencies were identified in the riparian area analysis in the 2005 WEMO EIS.

For this SEIS for the WMRNP, BLM performed the following:

- The route designation process for each alternative included evaluation of the location of each route with respect to the locations of all riparian areas and springs inventoried in the planning area.
- Implemented PFC assessments on more than 100 riparian areas and springs throughout the planning area to include grazing allotments. The assessments included areas outside of grazing allotments, as well as assessments associated with Rangeland Health Assessments on active allotments. In addition, BLM completed a comprehensive GIS analysis of all springs, as identified on the National Hydrography Dataset (NHD). This compilation included a review of more than 3.1 million acres, and identified 183 springs on BLM public lands. The assessment identified a total of 152 route features that intersected within a 100-meter buffer of these areas. BLM has also awarded a contract to

the U.S. Fish and Wildlife Service (USFWS) to complete riparian area mapping of 90 quadrangles at a scale of 1:24,000 within the Barstow and Ridgecrest Field Office areas.

- Conducted route evaluation and quantified the miles of motorized routes that could potentially impact riparian areas and springs across four alternative route networks, ranging from 4,293 to 10,428 miles in size.
- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, and changes in conditions within the planning area. This additional information is incorporated into the evaluation in Section 4.3.3.2 below.
- BLM addressed cumulative impacts of both OHV use and grazing on riparian areas and springs, provided in Section 4.14 below.

4.3.3.2 Impacts Common to All Alternatives

Disturbance of wetland areas directly reduces available habitat for wildlife species. Additionally, disturbance indirectly reduce wildlife habitat by introducing or spreading invasive plants, which can decrease the diversity and abundance of wildlife species that would otherwise be high in riparian areas. The impacts associated with motorized routes and livestock grazing in wetland and riparian areas may range from minor, where they are fenced and have limited visitation, to substantial, where they have no fencing to control vehicular access and overnight activities are occurring, taking into consideration access to at-risk or non-functional wetlands based on PFC criteria. PFC assessments are on-going within the planning area. The vast majority of at-risk or non-functional wetlands are due to direct impacts from mining activities, private land encroachment and occasionally livestock grazing. Road encroachment typically results in indirect impacts from passing vehicles, unless vehicles leave the road and enter the riparian area.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. In that analysis, riparian resource impacts were considered as a criterion in determining which routes would remain open and which would be closed under the various alternatives. Riparian area impacts were considered by evaluating route locations with respect to proximity to identified riparian areas and springs, and either placing limitations or closing routes that are within 50 feet of a riparian area or 300 feet of a spring. To date, PFC assessments have revealed that vehicle routes have little to no direct impacts to riparian areas with only a few exceptions, such as where they physically lead to the removal of riparian vegetation such as at stream crossings. In addition, the WMRNP alternatives include consideration of stopping and parking distances from routes in order to minimize disturbance in previously undisturbed areas, thus reducing the potential for new impacts to riparian areas. Therefore, minimization of riparian area impacts was a factor both in development of the alternative route networks, and in the specific limitations placed on routes in those networks. These minimization and mitigation measures differ among the alternatives, and are therefore discussed in more detail in Sections 4.3.3.3, 4.3.3.4, 4.3.3.5, and 4.3.3.6 below.

If sensitive, riparian habitat (UPA) are not fenced out or otherwise modified for avoidance, activities such as upstream mining, direct use of water sources by water-rights holders, vehicle use, and cattle (as well as wildlife) grazing activities may (1) dewater riparian areas, (2) result in damaged, trampled and destroyed vegetation, (3) result in utilization of the riparian vegetation, and (4) impact water quality. These direct impacts result in a decrease in vigor or complete elimination of vegetation from the riparian habitat associated with spring sources, where otherwise vegetation would be robust and often unique to the wetter microclimate. Smaller spring sources can also be indirectly impacted by livestock and wildlife hoof action that typically creates divots known as "punching" in wet soils, which can increase erosion and can create poor water quality conditions.

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4. For riparian areas, these include:

- Rehabilitate disturbance;
- Modify access to a less impacting designation;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Install access type restrictor;
- Re-align route to avoid environmentally sensitive area;
- Restrict stopping/parking/camping;
- Add parking area;
- Install barriers and maintain existing barriers;
- Remove Attractants;
- Install Educational Construct such as installing signs;
- Install step-over;
- Install fencing;
- Narrow route;
- Install/Implement Erosion Prevention Best Management Practices;
- Harden water crossing;
- Seasonal closure during bird nesting season;
- Monitor the route for signs of increasing impacts to a sensitive resource;
- Determine that no additional minimization and mitigation measure is needed based on site evaluation; and
- Exclude livestock by fencing unprotected natural springs and other natural sources to protect, maintain or enhance riparian habitat where feasible.

For springs, these measures include:

- Modify access to a less impacting designation;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Install access type restrictor;
- Re-align route to avoid environmentally sensitive area;
- Restrict stopping/parking/camping;
- Add parking area;
- Add or modify hiking trail access;
- Install barriers and maintain or upgrade existing barriers;
- Remove Attractants;
- Construct or Install Educational information such as signs;
- Install step-over;
- Install barriers;
- Narrow route;
- Install/Implement Erosion Prevention Best Management Practices;
- Seasonal closure during bird nesting season;
- Monitor the route for signs of increasing impacts to a sensitive resource; and
- Determine that no minimization and mitigation measure is needed based on site evaluation.

Residual Impacts After Implementation of Mitigation Measures

Residual effects to riparian areas and springs are likely to continue after application of mitigation measures, both with continued motorized vehicle use, and following closure of routes. Where motorized vehicle use is still allowed near riparian areas and springs, the impacts would be reduced from those that would have existed without mitigation measures. However, those vehicles could still disturb and compact soil, and damage vegetation. Closure of routes in those areas may not result in recovery in the short-term, unless active rehabilitation efforts are taken.

4.3.3.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management

in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to riparian areas. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider riparian areas and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit riparian areas by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. Changes to motorized vehicle use in the locations specified in these decisions under the action alternatives do have the potential to impact riparian areas in those locations. However, no water resources are found along the current designated "C" routes or the designated Rand-Fremont routes system, therefore no impacts to riparian areas are anticipated as a result of the No Action alternative.

As discussed under Impacts Common to all alternatives, sensitive, riparian habitat (UPA) may be impacted if they are not fenced or other avoidance measures implemented. With the exception of the Round Mountain Allotment, developed water sources have been fenced to exclude livestock from riparian areas, including springs. Isolated undeveloped springs and seeps are rarely used and in rough terrain usually not accessible by vehicle to the lessees and therefore are typically not fenced. In the Round Mountain Allotment, most natural sources are not fenced since the season of use is winter and riparian resources are dormant during that time period. There would be direct impacts to riparian resources during this season of use in this allotment. During the winter months, cattle do not congregate at water sources; therefore, this impact to water quality and riparian vegetation is short lived and dissipates after the cattle have been removed.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that motorized vehicles can have adverse impacts on riparian areas and springs. The mileage of routes associated with riparian areas and springs under the No Action Alternative is presented in Table 4.3-9.

Table 4.3-9. Alternative 1 - Miles of Routes in Proximity to Riparian/Spring Areas

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Within 50 Feet of Riparian Area	13.9	2.3	0	0	31.2
Mileage Within 300 feet of Spring	2.8	0.2	0	0	9

These impacts are concentrated in those subregions along the Mojave River and along the Sierra Mountain Front, which are areas with higher densities of riparian areas and springs.

Alternative 1 Minimization and Mitigation Measures

Table 2.3-1 describes the network-wide minimization and mitigation measures that are currently specified in the CDCA Plan, WEMO Plan, and/or the Court's Remedy Order, and which are therefore applicable under Alternative 1, the No Action Alternative. Whether they were applied during the route designation process or are mitigation measures, these measures act to reduce impacts to riparian areas. These include the one percent limit on allowable new ground disturbance in DWMAs, distance limitations on stopping and parking, and efforts to disguise and rehabilitate closed routes. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 300 feet outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for new impacts to riparian areas, as compared to pre-2006 conditions before these limitations were enacted. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific riparian area impacts are considered before authorizing new motorized routes.

Exclude livestock by fencing unprotected natural springs and other natural sources to protect, maintain or enhance riparian habitat where feasible.

4.3.3.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to riparian areas. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider riparian areas and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit riparian areas by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to riparian areas of each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to riparian areas. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The riparian area impacts of these decisions under Alternative 2 are as follows:

PA VII: It is anticipated that the overall number of SRP applications will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to riparian areas.

Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. The seasonal limitations on C routes may reduce their use for motorized events, and thus have localized beneficial impacts on riparian areas near those routes.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. The elimination of the Johnson Valley to Parker event may reduce impacts to riparian areas in that area. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any effect on riparian areas.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. In general, the lakebeds are not associated with riparian areas, and this decision would not have any direct effect on riparian areas. Because Koehn lakebed is currently receiving relatively light use, the amount of displaced use to other routes would be low. Therefore, this plan amendment decision is not expected to have an indirect, adverse impact on riparian areas by increasing the recreational use of routes in close proximity to riparian areas.

PA IX: No water resources are found along the designated Rand-Fremont routes system, therefore no impacts to riparian areas are anticipated as a result of Alternative 2.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative would result in result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing the potential for erosion that could impact riparian areas. This decision would also reduce the potential for stopping, parking, and camping to create new disturbance within riparian areas. The effect of these actions would be a net beneficial impact on riparian areas.

PA XI: As discussed under Impacts Common to all alternatives, sensitive, riparian habitat (UPA) may be impacted if they are not fenced or other avoidance measures implemented. Under this alternative, livestock grazing would be discontinued on portions of the Ord Mountain, Cantil Common, Shadow Mountain Allotments, a small portion of the Johnson Valley Allotment and the entire Harper Lake and Cronese Lake Allotments.. Due to these closures, any direct impacts to riparian habitats located on these allotments would cease. These direct impacts result in a decrease in vigor or complete elimination of vegetation from the riparian habitat associated with spring sources, where otherwise vegetation would be robust and often unique to the wetter microclimate. Smaller spring sources can also be indirectly impacted by livestock and wildlife hoof action that typically creates divots known as "punching" in wet soils, which can increase erosion and can create poor water quality conditions.

With the exception of the Round Mountain Allotment, developed water sources have been fenced to exclude livestock from riparian areas, including springs. Isolated undeveloped springs and seeps are rarely used and in rough terrain usually not accessible by vehicle to the lessees and therefore are typically not fenced. In the Round Mountain Allotment, most natural sources are not fenced since the season of use is winter and riparian resources are dormant during that time period. There would be direct impacts to riparian resources during this season of use in this

allotment. During the winter months, cattle do not congregate at water sources; therefore, this impact to water quality and riparian vegetation is short lived and dissipates after the cattle have been removed.

Alternative 2 Route Designation

Section 4.3.3.2 described the general impacts to riparian areas that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on riparian areas and springs. The mileage of routes associated with riparian areas and springs under Alternative 2 is presented in Table 4.3-10.

Table 4.3-10. Alternative 2 - Miles of Routes in Proximity to Riparian/Spring Areas

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Within 50 Feet of Riparian Area	6.1	3	0	0.4	37.4
Mileage Within 300 feet of Spring	1.9	0.1	0	0	10

The reductions in impacts, as compared to the No Action Alternative, are concentrated in those subregions along the Mojave River and along the Sierra Mountain Front, which are areas with higher densities of riparian areas and springs.

Alternative 2 Minimization and Mitigation Measures

Table 2.3-5 describes the network-wide minimization and mitigation measures that would be applied under Alternative 2. Many of these measures would act to reduce impacts to riparian areas. These include the one percent limit on allowable new ground disturbance in DWMAs, distance limitations on stopping and parking, and efforts to disguise and rehabilitate closed routes. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for impacts to riparian areas. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific riparian area impacts are considered before authorizing new motorized routes.

Exclude livestock by fencing unprotected natural springs and other natural sources to protect, maintain or enhance riparian habitat where feasible.

4.3.3.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management

in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on riparian areas is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions to riparian areas under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. There are no riparian areas associated with these areas, so the plan amendment would not have any adverse impacts to riparian areas. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known the riparian area impacts of those routes would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. In general, the lakebeds are not associated with riparian areas, and this decision would not have any direct effect on riparian areas.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. There are no riparian areas present in this area. Therefore, eliminating the permit requirement would not have any impact on riparian areas.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing the potential for erosion that could impact riparian areas. This decision would also reduce the potential for stopping, parking, and camping to create new disturbance within riparian areas. The effect of these actions would be a net beneficial impact on riparian areas located adjacent to the routes that are designated as available for motorized use outside of DWMAs.

PA XI: As discussed under Impacts Common to all alternatives, sensitive, riparian habitat (UPA) may be impacted if they are not fenced or other avoidance measures implemented. With the exception of the Round Mountain Allotment, developed water sources have been fenced to exclude livestock from riparian areas, including springs. Isolated undeveloped springs and seeps are rarely used and in rough terrain usually not accessible by vehicle to the lessees and therefore are typically not fenced. In the Round Mountain Allotment, most natural sources are not fenced since the season of use is winter and riparian resources are dormant during that time period. There would be direct impacts to riparian resources during this season of use in this allotment. During the winter months, cattle do not congregate at water sources; therefore, this impact to water quality and riparian vegetation is short lived and dissipates after the cattle have been removed.

Alternative 3 Route Designation

Section 4.3.3.2 described the general impacts to riparian areas that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on riparian areas and springs. The mileage of routes associated with riparian areas and springs under Alternative 3 is presented in Table 4.3-11.

Table 4.3-11. Alternative 3 - Miles of Routes in Proximity to Riparian/Spring Areas

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Within 50 Feet of Riparian Area	26.9	3.7	0	0.4	16.6
Mileage Within 300 feet of Spring	6.5	0.2	0	0	5.3

The increase in impacts, as compared to the No Action Alternative, is concentrated in those subregions along the Mojave River and along the Sierra Mountain Front, which are areas with higher densities of riparian areas and springs.

Alternative 3 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 3. Many of these measures would act to reduce impacts to riparian areas. These include the one percent limit on allowable new ground disturbance in DWMAs, distance limitations on stopping and parking, and efforts to disguise and rehabilitate closed routes. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for impacts to riparian areas. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific riparian area impacts are considered before authorizing new motorized routes.

Exclude livestock by fencing unprotected natural springs and other natural sources to protect, maintain or enhance riparian habitat where feasible.

4.3.3.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on riparian areas is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on riparian areas. However, this decision would make it easier for BLM to consider riparian area impacts in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on riparian areas.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions to riparian areas under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. There are no riparian areas associated with these areas, so this decision would not have any adverse impacts to riparian areas. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2. The

riparian area impacts at Cuddeback, Coyote, and Chisholm Trail Lake lakebeds would be the same as those described for Alternative 3, which would also designate these lakebeds as open to motorized vehicles. In general, the lakebeds are not associated with riparian areas, and this decision would not have any direct effect on riparian areas.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing the potential for erosion that could impact riparian areas. This decision would also reduce the potential for stopping, parking, and camping to create new disturbance within riparian areas. The effect of these actions would be a net beneficial impact on riparian areas located adjacent to the routes that are designated as available for motorized use outside of DWMAs.

PA XI: As discussed under Impacts Common to all alternatives, sensitive, riparian habitat (UPA) may be impacted if they are not fenced or other avoidance measures implemented. Under this alternative, livestock grazing would be discontinued on the Harper Lake, Cronese Lake, and a small portion of the Johnson Valley Allotments. Due to these closures, any direct impacts to riparian habitats located on these allotments would cease. These direct impacts result in a decrease in vigor or complete elimination of vegetation from the riparian habitat associated with spring sources, where otherwise vegetation would be robust and often unique to the wetter microclimate. Smaller spring sources can also be indirectly impacted by livestock and wildlife hoof action that typically creates divots known as "punching" in wet soils, which can increase erosion and can create poor water quality conditions.

With the exception of the Round Mountain Allotment, developed water sources have been fenced to exclude livestock from riparian areas, including springs. Isolated undeveloped springs and seeps are rarely used and in rough terrain usually not accessible by vehicle to the lessees and therefore are typically not fenced. In the Round Mountain Allotment, most natural sources are not fenced since the season of use is winter and riparian resources are dormant during that time period. There would be direct impacts to riparian resources during this season of use in this allotment. During the winter months, cattle do not congregate at water sources; therefore, this impact to water quality and riparian vegetation is short lived and dissipates after the cattle have been removed.

Alternative 4 Route Designation

Section 4.3.3.2 described the general impacts to riparian areas that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on riparian areas and springs. The mileage of routes associated with riparian areas and springs under Alternative 4 is presented in Table 4.3-12.

Table 4.3-12. Alternative 4 - Miles of Routes in Proximity to Riparian/Spring Areas

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Within 50 Feet of Riparian Area	12.5	2.3	0.1	0.4	32.2
Mileage Within 300 feet of Spring	3.7	0.3	0.1	0	7.9

The increase in impacts, as compared to the No Action Alternative, is concentrated in those subregions along the Mojave River and along the Sierra Mountain Front, which are areas with higher densities of riparian areas and springs.

Alternative 4 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 4. Many of these measures would act to reduce impacts to riparian areas. These include the one percent limit on allowable new ground disturbance in DWMAs, distance limitations on stopping and parking, and efforts to disguise and rehabilitate closed routes. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for impacts to riparian areas. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific riparian area impacts are considered before authorizing new motorized routes.

Exclude livestock by fencing unprotected natural springs and other natural sources to protect, maintain or enhance riparian habitat where feasible.

4.4 Biological Resources

Table 4-26 of the 2006 WEMO Plan presented general assumptions regarding the impact of motorized vehicle access on wildlife, with a focus on the desert tortoise. These assumptions have been reviewed and revised for the WMRNP, as shown in Table 4.4-1. The major revision is that the general assumptions regarding the impact of motorized vehicle access on tortoise are more broadly considered to be applicable to other wildlife, vegetation, and areas designated for their protection, including DWMAs.

Table 4.4-1. General Assumptions Regarding Impacts of Motorized Routes on Vegetation, Wildlife, and Areas Specially Designated for their Protection

Category	Assumptions
Desired Results	An overall objective of the transportation network goal is to designate and implement a route network that would provide for public access, authorized uses, and the following desired results: • Fewer losses of tortoises and other wildlife to crushing, poaching, pet collection, intentional vandalism, and similar activities requiring vehicle access. • Less degradation and loss of occupied habitat (first priority) and suitable habitat (second priority). • Larger blocks of unfragmented habitat, which would be achieved if vehicle use is prevented on designated closed routes, does not result in increased cross-country travel in adjacent areas, and promotes recovery of suitable habitats more quickly than would naturally occur. • Route closure in higher density wildlife areas is likely to provide the most benefit in terms of avoiding mortalities and other losses. • Route closure in lower density wildlife areas would alleviate losses of animals that are critically important to natural repatriation.
Function and Importance of DWMAs	• All public lands in DWMAs are important for tortoise conservation and recovery, as well as conservation of other vegetation and wildlife species present within the DWMA. • Lands that currently support relatively lower tortoise densities are no less important for tortoise recovery than lands supporting relatively higher densities. • DWMAs are the primary land base on which conservation goals, recovery efforts, and mitigation standards can be achieved.
Impacts to Wildlife and Vegetation	• Motorized routes in wildlife habitat are assumed to potentially have adverse impacts to individuals due to vehicle strikes and noise. • Wildlife and vegetation are more likely to be adversely impacted in regions supporting higher densities of motorized routes than in areas of lower route densities. • Vehicle-based impacts are proportionate to the number of existing roads in an area. Both allowed uses (e.g., vehicle use that remains on existing roads) and prohibited uses (i.e., cross-country travel outside BLM Open Areas, dumping, vandalism, collection) are more likely to occur where roads are relatively more common. • If left unchecked, vehicle use in areas of above-average human disturbances would continue to result in loss of wildlife and vegetation, degradation of habitat, and seriously undermine conservation and recovery efforts for listed species.

4.4.1 Vegetation Resources

4.4.1.1 Introduction

Affected Environment Summary

Sections 3.4.3 and 3.4.4 describe the vegetation in the planning area, including vegetative communities, unusual plant assemblages (UPAs), and special status plant species. More than 91 percent of the planning area is located in the Mojave Basin and Range Ecoregion. Because elevations and moisture gradients in this ecoregion can vary abruptly across short distances, plant communities also vary greatly. Communities in the higher elevations include Joshua tree woodland, sagebrush steppe, pinyon-juniper woodland, and cottonwood/willow riparian vegetation. The southern part of the planning area gradually transitions to Mojave Desert vegetation dominated by creosote bush and white bursage. Unique desert wetland communities include mesquite bosques, as well as freshwater and saltwater marshes. The northwestern portion of the planning area is in the Sierra Nevada Ecoregion, comprising about six percent of the planning area. The southwestern portion of the planning area is in the Southern California Mountains Ecoregion, and is dominated by chaparral.

The CDCA Plan recognized areas throughout the CDCA as Unusual Plant Assemblages (UPAs), which are extraordinary based on unusual age, unusual size, unusually high cover density, or disjunction from main centers of distribution. Areas with restricted and discontinuous habitats are also UPAs, and include seeps, springs, and riparian areas, as well as plants growing on restricted substrates such as limestone outcrops or sand dunes.

A total of 46 special status plant species potentially occur within the planning area (BLM 2005, 2013a, b; Dudek and ICF International 2012). Special status plant species include those designated as threatened or endangered under the Endangered Species Act, as well as those designated as BLM Sensitive Species. Many of these special status plant species are located in areas that are specifically designated for protection of these species, including USFWS Designated Critical Habitat (DCH), or BLM-designated Desert Wildlife Management Areas (DWMAs), Areas of Critical Environmental Concern (ACECs), or conservation areas. These special designations commonly carry management prescriptions to protect these species, including limitations on future land uses, and limitations on motorized vehicle use.

Methodology

The 2005 WEMO EIS analyzed the impacts of the 5,098 mile route network evaluated in that EIS with respect to natural communities and special status vegetation species. The analysis included a discussion of the effects of the proposed changes in the motorized vehicle network on specific vegetation species. The Court evaluated the analysis specific to the Barstow wooly sunflower, desert cymopterus, and Mojave monkeyflower, and found that the analysis was sufficient. The Court also evaluated the analysis of OHV use and grazing on the spread of non-native plants, and found that analysis to be adequate. However, the Court's evaluation of the impact of OHV use on Unusual Plant Assemblages (UPAs) concluded that there was no discussion of the impact on OHVs on specific UPA areas. The Remedy Order (pg. 15) required BLM to implement additional information gathering and monitoring regarding UPAs. Finally, the Court made a general finding, for all resources, that the range of route network alternatives evaluated was inadequate. No other deficiencies were identified in the vegetation analysis in the 2005 WEMO EIS.

For this SEIS for the WMRNP, BLM performed the following:

- The route designation process for each alternative included evaluation of the location of each route with respect to the UPA areas designated within the planning area. The process also included evaluation of the location of each route with respect to an updated inventory of locations of special status plants and ACECs designated for protection of vegetation resources.
- Conducted route evaluation and quantified the miles of motorized routes that could potentially impact UPAs and other vegetation resources across four alternative route networks, ranging from 4,293 to 10,428 miles in size.
- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, changes in conditions within the planning area, and changes in the applicable regulatory framework for vegetation resources. This additional information is incorporated into the evaluation in Section 4.4.1.2 below.

4.4.1.2 Impacts Common to All Alternatives

The impacts from OHV use and livestock grazing on vegetation were summarized by Ouren and others (2007). Motorized routes have both direct and indirect effects on vegetation. Direct impacts result from the occupation of land area by the road surface, whether it is asphalt, cement, or compacted soil, which removes that land area as potential habitat for vegetation. This effect can be expanded when motorized or mechanized vehicles leave the main route, resulting in additional ground disturbance of adjacent areas. This occurs in areas where stopping, parking, or camping activities are allowed, and in route proliferation areas. It can also occur in areas where road conditions have degraded through erosion or overuse, and vehicle operators find it easier to create new disturbance than to continue on the designated route. The severity of the effect on vegetation is amplified in areas of rare vegetative communities, UPAs, or special status plant habitat.

There are also a variety of indirect effects of motorized vehicle use on vegetation. These include:

- Alterations in surface water flow and percolation, especially where the roadbed is not at grade level (Trombulak and Frissell 2000);
- An increase in overall plant height, plant biomass, and foliage arthropods through "water harvesting" adjacent to compacted roadbeds (Johnson *et al.* 1975, Vasek *et al.* 1975b), yielding an overall increase in vegetation production (especially problematic in regards to nonnative invasive species), even after considering the denudation of the roadbed;
- Providing a corridor of dispersal for some species of non-native invasive weeds (Trombulak and Frissell 2000), especially those adapted to disturbed lands;
- Changes in the fire ecology in areas due to associated increases in non-native invasive weeds; and
- Increased occurrence of fires started by visitors.

Motorized vehicle routes can serve as corridors by which non-native plant species can more easily invade wildlife habitat. Brooks (1998 in Boarman 1999) found that the number of non-native plant species increase near roads. At least two mechanisms seem to be at work in the

process of invasion. First, vehicles may transport seeds of non-native species along routes of travel on their wheels and undercarriages. The existence of a network of routes may result in seeds of invasive plants being carried far from the sites where they were originally introduced. Secondly, many non-native plant species tend to colonize disturbed areas more readily than native species; road beds and berms along routes of travel are highly disturbed and therefore provide ample opportunity for these species to become established and spread. Some disturbance of soils adjacent to routes of travel likely occurs. Such disturbance can be caused by routine maintenance, drivers leaving the roadbed to pass another vehicle or to avoid a wet or sandy area, and recreation users pulling off routes of travel to camp or park; unauthorized cross-country travel that is facilitated by routes of travel also contributes to soil disturbance. This invasion of invasive non-natives is further enhanced through "water harvesting", the concentration of precipitation runoff adjacent to compacted roadbeds.

Disturbance of soils can accelerate the spread of invasive non-native plant species by destruction of soil crusts and cryptogams. These non-native species, in turn, can out-compete the native plant species (Lovich and Bainbridge 1999); non-native species are often better competitors than native species and may reduce the abundance of important forage plants. Generally, the relatively few species of non-native plants do not contain the variety of nutrients that wildlife obtains from native plants; over time, this decrease in available nutrients may place wildlife under physiological stress.

Most observations such as those described in the previous paragraphs have been describing the result of cross-country travel or heavy use of roads. However, regarding "light" use by vehicles, Boarman (1999) notes that "very little data are available to evaluate those impacts" because most studies have been conducted in areas of heavy use. Boarman (1999) acknowledges that light use can affect habitat but that "very light, basically non-repeated vehicle use probably has little long-term impact."

Motorized vehicle use can also impact vegetation adjacent to routes by releasing fugitive dust. Fugitive dust can settle on plant foliage, resulting in reducing plant growth rates, size, and survivorship (Ouren and others 2007).

Motorized vehicle use can create edge effects which impact the ecology adjacent to the routes. Compaction of soil on the route itself results in an increase in precipitation runoff directly adjacent to the route, which can lead to greater plant growth directly along the edges of routes (Ouren and others 2007). This may not necessarily be beneficial for vegetation. The increase in water could make these areas susceptible to non-native vegetation, or could attract wildlife into the area near the route, where they could be more at risk for vehicle strikes.

Several annotated bibliographies address the effects of roads on vegetation and natural communities; among these are Ouren and others 2007; Boarman 1999, Rowland 1980, and Spellerberg and Morrison 1989. Trombulak and Frissell (2000) reviewed the literature on ecological effects of roads, and Lovich and Bainbridge (1999) reviewed a variety of degrading activities, including roads. These bibliographies and literature reviews elaborate on the effects listed above, provide additional publications, and describe other effects of roads. The compaction and loss of vegetation that has already occurred on the more heavily used roadbeds as a result of past route use may prevent natural re-vegetation of native species consistent with the surrounding area. Therefore, designating heavily used routes of travel as motorized may have minor direct effects to the vegetation, at least in the reasonably foreseeable future, because

impacts on these routes have already occurred and are likely to continue, even if the route is closed. The horizon for natural re-vegetation of these routes is anticipated to be substantially beyond the planning horizon. However, indirect effects from the use of these routes would decrease if the routes were closed.

Vegetation impacts were considered in the development of alternative goals and objectives, in designation of individual routes, and in defining specific implementation parameters. Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. The goals and objectives developed for Alternative 2 focus on enhancing sensitive resource values and areas, including threatened and endangered species as well as other sensitive biological and non-biological landscape factors, and managing access to de-emphasize casual multiple-use motorized and mechanized touring. In contrast, the goals and objectives for Alternative 3 focus on meeting the diverse transportation, access, and recreational needs of the public, and managing access to emphasize casual multiple-use motorized and mechanized touring.

Vegetation impacts were also considered by evaluating route locations with respect to DWMAs, ACECs, DCH, and other identified habitat features. In addition, the WMRNP alternatives include consideration of stopping and parking distances from routes in order to minimize disturbance in previously undisturbed areas, thus reducing the potential for new impacts to vegetation. Therefore, minimization of impacts to vegetation was a factor both in development of the alternative route networks, and in the specific limitations placed on routes in those networks. These minimization and mitigation measures differ among the alternatives, and are therefore discussed in more detail in Sections 4.8.3, 4.8.4, 4.8.5, and 4.8.6 below.

Natural Communities

In the context of the entire Mojave Desert, the WEMO Plan connects to public lands in the Inyo, Sequoia, Angeles and San Bernardino National Forests. New conservation near the latter two Forests includes the linkage to the Poppy Preserve, the Big Rock Creek Conservation Area, and the Carbonate Endemic Plants ACEC. The linkages within Los Angeles County would prevent future isolation of the Poppy Preserve and Saddleback Buttes State Park. The WEMO Plan adjoins the Coachella Valley Multiple Species Habitat Conservation Plan near Morongo Valley, and land uses in this area are compatible with both habitat linkages and protection of species in common to the two plans (triple-ribbed milkvetch and Little San Bernardino Mountains gilia). The WEMO Plan recognized the impacts from recreation and route designation to natural communities, and concluded that impacts of recreation and route designation to natural communities are primarily cumulative in nature. Some species are more sensitive to route specific impacts because of their very limited distribution. However, most of the more intensively used OHV Open areas are within the creosote bush scrub, desert wash and saltbush scrub communities. Riding on playas is also popular and may impact the adjacent alkali sink scrub vegetation. In remote or mountainous areas, most travel is confined to roads, so that the woodland communities (Joshua tree woodland, scrub oak, pinyon pine woodland, juniper woodland) suffer relatively fewer direct vehicle impacts.

Outside of the OHV Open Areas, habitat fragmentation is an issue in other areas with a large number of routes, depending to some extent on the frequency of use. This fragmentation is exacerbated in areas with substantial route proliferation. Of the four alternatives evaluated in this SEIS, Alternative 3 would result in the greatest increase in open motorized routes within sensitive biological areas, and therefore would have the greatest potential for impacts to sensitive biological resources. No Action would result in the greatest potential impact to habitat outside of DWMA, and Alternative 3 would result in the greatest potential impact to habitat within DWMA, based on area-wide potential for disturbance.

Alternative 2, by closing the largest mileage of routes and applying the most restrictive minimization and mitigation measures, would result in the fewest adverse impacts to biological receptors over the long-term. All alternatives include an immediate strategy of signing closed routes and providing educational information for the public, which will result in a moderate level of compliance of the route network. The rate of active closures anticipated is similar for all alternatives, so active disturbances would not vary substantially by alternative in the reasonably foreseeable future. Alternative 2 is anticipated to reduce and displace overall use to outside DWMA and MGS habitat to some degree, but is also likely to result in an increased intensity of use on the remaining network in these areas. Other alternatives are likely to change the balance between use and intensity in these sensitive areas. In other ACEC, use and intensity of use is not anticipated to substantially change.

Where motorized routes exist, the contribution to cumulative biological impacts in sensitive areas would still be adverse. Providing additional opportunities in less sensitive areas and directing recreational and commercial activities to OHV Open Areas and the less sensitive areas mediates the cumulative impacts but does not eliminate them. When placed in context of other developments within the West Mojave, including land development, mining and recreational use of habitat lands, as well as the beneficial effects of WEMO management strategies, additional wilderness designation, enhanced protection of sensitive habitat on Fort Irwin, and DRECP strategies, the reduction in surface disturbance by measures to manage, enforce, and restore routes impacting vehicle-sensitive species would be beneficial under all alternatives. In the long-term, Alternative 3 does not directly benefit the species in DWMAs as well as No Action, which is an adverse impact to natural communities.

Livestock Grazing - Upland Vegetation and Upland UPAs

The utilization by livestock, horses and other wildlife of upland vegetation and potentially upland UPAs for forage directly impacts the vegetation in a number of ways. Key forage plant species for livestock consumption are palatable species that may be utilized frequently, when available, as forage. Grazing utilization measures the proportion of degree of the current years forage production that is consumed or destroyed by livestock (ITR-Utilization Studies 1996). Utilization of key species during the critical growing period, typically spring may prevent formation of a seed-head and dissemination of seed. If this occurs year after year to the same population of forage species, a negative impact to recruitment occurs. If high levels of utilization occurs to a given population of forage species, those plant have less leaf area to absorb sunlight, produces lower levels of carbohydrates, and expends a considerable amount of energy on re-growth. This type of scenario results in poor plant vigor, lower abundance, and poor age-class distribution. As previously mentioned, forage utilization, plant vigor, abundance and age-class distribution of key species are generally more intensely impacted around water

sources or high-use facilities due to constant soil compaction from trampling and continual cropping of vegetation from cattle and horses. Direct impacts to resource conditions adjacent to water developments are expected, and the area impacted will vary in size. These types of negative impacts have occurred in portion of West Mojave allotments where the Native Species Standard is not being achieved.

Areas that have been affected by other habitat disturbing factors are more vulnerable to impacts from livestock and vehicles. In particular, wildfire may result in closure of areas for multiple years to allow vegetative reproduction and return of native communities. Under indirect effects, those areas identified as not achieving the Native Species Standard may be subject to a livestock grazing deferment in the spring and fall grazing during the critical growing periods. BLM anticipates slow, but positive progress towards improvement of degraded native plant communities as a result of this corrective management action and reverse the downward trend in rangeland health. This deferment from grazing during the critical growing period for native species is anticipated to favor recruitment, vigor and enhance species diversity in native plant communities previously degraded by past grazing practices in portions of the allotment. Desert tortoises prefer certain native annual forbs over non-native annual forbs (Jennings 1997). BLM has not inventoried for these annual native species so their abundance on West Mojave allotments is unknown, however under all alternatives native annual forbs located in the "deferment areas" would have the opportunity to germinate, grow and disseminate seed.

The additional changes in grazing practice as described in the 2006 WEMO Plan are anticipated to make positive progress toward achievement of the Native Species Standard by reducing the utilization thresholds from 40% to as low as 25% on select key species allotment wide which would allow for greater leaf area to absorb sunlight. This improves plant vigor and production, and reduces the contribution of grazing to vegetation impacts. There are two other grazing operational prescriptions contained in the 2006 WEMO Plan that would not authorize ephemeral portion of the perennial/ephemeral authorization and would not authorize temporary non-renewable use, regardless of production. These provisions would further reduce use of forage species on the allotments in more productive years, providing for very high recruitment and increased vigor.

The 2006 WEMO grazing prescription that requires exclusion from portions of select allotments when ephemeral production is less than 230 lbs./acre has a beneficial impact to the vegetation that is excluded from grazing during those seasons. This would minimize impacts to reproduction and plant growth during these poorer production years. However, already stressed vegetation in portions of the allotment where grazing would be allowed may suffer from slightly higher levels of utilization, which in turn can mean lower or no reproduction and poorer plant vigor during those growing seasons, unless stocking rates are appropriately adjusted.

Natural climate fluctuations can also have a significant effect on desert vegetation, but not all desert natives are consistently affected by these fluctuations. Beatley (1980) concluded that most of the living plants in the Mojave Desert in 1963 were still present when she re-measured her plots in 1975. An additional 20-30% of the plants measured in 1975 were new, and total cover had increased as a result of high rainfall in the late 1960s. Beatley concluded that the size and cover of woody perennial plants in the Mojave Desert are strongly correlated with precipitation.

The period between 1975, when Beatley last measured the plots, and 2000 had several climatic extremes. The period of 1977-1984 was one of the wettest periods of the 20th century, and

extreme droughts occurred in 1989-1991 (Hunter, 1994), 1996, and 1999. Many shrubs died during these years, making droughts a major mechanism for change in Mojave Desert ecosystems. Despite the droughts, the increase in biomass between 1963 and 2000 is striking. Associations dominated by creosote bush (*Larrea tridentata*) had large increases in the sizes of individual plants as well as increases in total cover. Some blackbrush assemblages, in contrast, lost total cover, probably as a result of the droughts, reflecting the significant differences in drought tolerance between various native species of the desert. Some non-native species such as red brome (*bromus madritensis*, ssp. Rubens) can be extremely hardy during drought periods, and during those periods readily outcompete native species (Monitoring Of Ecosystem Dynamics In The Mojave Desert: The Beatley Permanent Plots, USGS Fact Sheet 040–01, Webb, Robert H, et al.).

Special Status Plants

The WEMO SEIS would result in direct and indirect impacts, both positive and negative, to most of the sensitive plant species addressed in this Plan. The beneficial, direct impacts include the establishment of large, unfragmented habitat blocks, strategies to block up public lands in those areas, measures to reduce tortoise mortality, measures to minimize disturbance impacts to conserved lands and measures addressing unique components of diversity, such as endemic species, disjuncts and habitat specialists.

Most special status plants are locally distributed in distinct areas, although new populations are occasionally identified. Generally projects are designed to avoid concentrations of these species. Mining projects have, in the past, adversely affected listed and sensitive species. Usually, the most sensitive areas are withdrawn or otherwise protected from these types of use. Based on BLM records, cattle grazing activities have not been identified as adversely affecting BLM special status plant species that are located within allotments, like the Mojave monkey flower, or Unusual Plant Assemblages (UPA). Areas identified for protection of special status plants do not authorize grazing, unless their distribution makes fencing impracticable. Cattle generally do not prefer to graze the Mojave monkeyflower or many of the other BLM special status plant species because they often occur in unique habitats, such as rocky, mountainous habitats, so the potential for grazing this species is low; however livestock could potentially utilize and trample BLM special status plant species. Again, this potential is low because livestock are not concentrated where special status plant species populations exist.

Invasive, Non-Native Species

Invasive species can occur as a result of direct spread of seeds, stressing of native habitat, and surface disturbance and loss of native vegetation, which facilitate the colonization of invasives over many native species. Natural wind conditions in the desert, non-native plantings, wildfire, vehicle use, and the presence of livestock and wildlife can directly spread the seeds of invasive species. Mechanisms for spread include airborne-spread of seeds, seeds sticking to vehicles or to the hides of animals, and deposition of seed through livestock and wildlife digestive systems (Belsky 2000). Historically, non-native plantings by rural residents and project managers, often as windbreaks, have been major contributors to non-native species spread. Current practices prohibit such plantings on authorized projects, but seeds may still be spread by the use of equipment and vehicles on site. Similar spread of seeds is associated with OHV use as described in previous sections. Wildfire continues to be a major source of introduction of non-native

species. Post-fire rehabilitation efforts provide for some level of planting or seeding to encourage native species to more quickly be reestablished. Projects which authorize disturbances create conditions that can encourage invasive species. These species can then spread far beyond the project boundaries. These project impacts are minimized by the use of best management practices, such as specific plantings of native species, and treating weed populations with herbicide applications.

The extent to which poor grazing practices contribute to the spread of non-native invasive species on the West Mojave allotments is unknown. However, some grazing practices like overgrazing do reduce the diversity, and reproductive abilities of these native, desert plant communities (Boarman 1999). This in turn promotes the establishment and spread of non-native invasive species that now occupy habitat once primarily inhabited by native species, because poor grazing practices degrade palatable native plant species resulting in a reducing its ability to reproduce, poor plant vigor, poor age class distribution and lower overall productivity. This allows highly aggressive non-native herbaceous plants to invade habitat occupied by stressed native species or habitat once occupied by native species.

The West Mojave allotments that authorize year-long continuous use, often grazing the same area at the same time, year after year, may have contributed to a transition of the native herbaceous ground cover to invasive and non-native species over portions of the West Mojave allotments. This is also the case in areas that serve as corral facilities for livestock and wild horse and burro distribution and collection. The lack of periodic rest for native species in these areas contributes to habitat more vulnerable to invasion by non-natives. The palatability of non-native vs. native plant species to livestock varies based the species and phenological stage. Overall livestock prefer native forbs over non-native forbs however non-natives forbs typically germinate earlier in the growing season and are generally grazed in an earlier phenology stage than natives which can in some years favor native forbs in the production of seed into the seed bank. Depending on density, the utilization of native forbs can be lower than utilization levels on non-native forbs because native forbs are most palatable when there is the highest level of forage diversity available to the cattle.

Grazing practices that allow for periodic recruitment opportunities commonly have lower densities of non-native species and are more compatible with sustaining native plant communities. Mitigation measures like the deferment of grazing in the spring and fall, strict compliance with the grazing prescriptions contained in the 2006 WEMO Plan, and the other grazing stipulations identified in that plan and in subsequent allotment-specific environmental assessments aid in improving native plant communities and in reducing the spread of non-native invasive species. The lowered utilization thresholds on key forage plants and other requirements should improve the overall trend of native plant communities. However, once such communities get established, they can be very difficult to eradicate.

Overall, the current densities of non-native invasive species on the allotments being analyzed in this document is consider light to moderate based on ocular estimates. Annual fluctuations in densities are directly influenced by the amounts of late winter and/or early spring precipitation.

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process and the grazing program management alternatives for each alternative,

and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4. For rare and special-status plant species, these include:

- Restrict stopping/parking/camping;
- Add parking/camping area;
- Install barriers and maintain or upgrade existing barriers;
- Remove Attractants;
- Modify access to a less impacting designation;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Install access type restrictor;
- Re-align route to avoid environmentally sensitive area;
- Construct or Install Educational information such as signs;
- Install step-over;
- Install fencing;
- Narrow route;
- Install/Implement Erosion Prevention Best Management Practices;
- Monitor the route for signs of increasing impacts to a sensitive resource; and
- Determine that no additional minimization and mitigation measure is needed based on site evaluation.

For protected vegetation resources, these include:

- Restrict stopping/parking/camping;
- Add parking/camping area;
- Install barriers and maintain or upgrade existing barriers;
- Remove Attractants;
- Modify access to a less impacting designation;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Install access type restrictor;
- Re-align route to avoid environmentally sensitive area;
- Install barriers and maintain or upgrade existing barriers;
- Construct or Install Educational information such as signs;
- Install step-over;
- Install fencing;
- Narrow route;

- Install/Implement Erosion Prevention Best Management Practices;
- Monitor the route for signs of increasing impacts to a sensitive resource;
- Determine that no additional minimization and mitigation measure is needed based on site evaluation; and
- Maintain and enforce reduced utilization thresholds for livestock grazing based on the season of use and range conditions.

Residual Impacts After Implementation of Mitigation Measures

Residual effects to vegetation resources would continue after application of mitigation measures, both with the livestock grazing program, with continued motorized vehicle use, and following closure of routes. Where motorized vehicle use is still allowed in areas with special-status vegetation species or UPAs, the impacts would be reduced from those that would have existed without mitigation measures. However, those vehicles could still damage vegetation if they traveled into undisturbed areas. Closure of routes in those areas may not result in recovery in the short-term, unless active rehabilitation efforts are taken.

4.4.1.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to natural communities, special-status vegetation species, or UPAs. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider vegetation and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit vegetation resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. Impacts may still occur to vegetation as a result of motor vehicle use in these areas on remaining available routes, despite adopted measures, including fencing, oversight, and measures to increase public information prior to use of routes in the Rand-Fremont area.

Livestock Grazing - Upland Vegetation and Upland UPAs

The impacts common to all alternatives would apply to all allotments being actively grazed under the No Action Alternative. See Table 4.7-1 for the remaining grazing acres potentially affected.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that motorized vehicles can have adverse impacts on vegetative communities, special status plant species, and UPAs. Adverse impacts would primarily occur directly through removal of vegetation, soil disturbance, and disturbance of hydrology, and would therefore be focused in areas on or adjacent to motorized routes. Indirect impacts to these resources could also occur due to the spread of invasive plants. Again, these impacts would be focused close to the routes, although they could spread to adjacent areas. The mileage of routes associated with vegetative communities, special status plant species, and UPAs under the No Action Alternative is presented in Tables 4.4-2. 4.4-3, and 4.4-4, respectively.

Table 4.4-2. Alternative 1 – Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Agriculture	0	0	0	16	0	0	1.5
Arizonan upland Sonoran desert scrub	0.4	0	0.6	25	0	0	0.3
California Annual and Perennial Grassland	57.2	1	84.7	3399	0	1.4	64.2
California annual forb/grass vegetation	10.4	0	15.1	267	0	0	28
Californian broadleaf forest and woodland	0.2	0	0.3	71	0	0.2	6

Table 4.4-2. Alternative 1 – Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Californian evergreen coniferous forest and woodland	7.1	0	10.3	1175	0	0	46.9
Californian mesic chaparral	0	0	0	60	0	0	0.6
Californian montane conifer forest	21.3	0	31	1608	0	0.3	25
Californian warm temperate marsh/seep	0	0	0	0	0	0	0.1
Californian xeric chaparral	1.4	0	2	60	0	1.7	8.5
Central and south coastal California seral scrub	0	0	0	0	0	0	0.5
Central and South Coastal Californian coastal sage scrub	11.2	0.5	17	1591	0	0	62.2
Desert Playa	77.2	45.6	178.6	4575	0	0	107.1
Developed	30.1	2.2	47	1264	0	0	74.1
Disturbed Lands	5.7	0	8.3	224	0	0	17.8
Great Basin cool semi-desert alkali basin	0.3	0	0.4	18	0	0	0.4
Inter-Mountain Dry Shrubland and Grassland	400.6	5.9	591.3	22208	0	3.2	1071.5
Inter-Mountain West mesic tall sagebrush shrubland and steppe	9.2	0	13.4	388	0	0.3	29.2
Intermontane deep or well-drained soil scrub	104.1	3.7	156.8	3801	0	0	209.4
Intermontane seral shrubland	4.3	0.7	7.3	269	0	0	8.3
Intermountain Shadscale - Saltbush Scrub	156.6	0.6	228.7	1569	0	0	145.4

Table 4.4-2. Alternative 1 – Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Lower Bajada and Fan Mojavean-Sonoran desert scrub	3518.7	62.8	5209.5	107729	0	0	6397.1
Madrean Warm Semi-Desert Wash Woodland/Scrub	7.1	1	11.8	420	0	0	10.5
Mediterranean California naturalized annual and perennial grassland	3.9	0	5.7	88	0	0	14.4
Mojave and Great Basin upper bajada and toeslope	166.2	15	263.6	7567	0	0	443.9
Mojavean semi-desert wash scrub	96.5	3.8	145.9	1306	0	0	93.5
North American warm desert bedrock cliff and outcrop	266	1.1	388.5	13102	0	0	343.8
North American warm desert dunes and sand flats	12.4	0.3	18.5	410	0	0	36.4
Not Mapped	6	0	8.7	4	0	1.1	5.9
Open Water	0	0	0	1	0	0	0.4
Rocky Mountain mesic subalpine forest and woodland	0	0	0	0	0	0	0.1
Rural	5.7	0	8.3	427	0	0	47.6
Shadscale-saltbush cool semi-desert scrub	138.9	0.3	202.5	3360	0	0	191.9
Sonoran-Coloradan semi-desert wash woodland/scrub	37.6	0.9	56	381	0	0	34.6
Southern Great Basin semi-desert grassland	0.3	0	0.4	3	0	0	0.2

Table 4.4-2. Alternative 1 – Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Southwestern North American introduced riparian scrub	0.3	0	0.4	9	0	0	1.4
Southwestern North American riparian evergreen and deciduous woodland	0.3	0	0.4	2	0	0	0.6
Southwestern North American Riparian, Flooded and Swamp Forest/Scrubland	3.6	0.2	5.5	64	0	0	4.4
Southwestern North American riparian/wash scrub	0	0	0	2	0	0	0.3
Southwestern North American salt basin and high marsh	9	2	16	172	0	0	21.4
Western Great Basin montane conifer woodland	19.8	1	30.3	1367	0	2.4	38.8
Western Mojave and Western Sonoran Desert borderland chaparral	0	0	0	16	0	0	0.4

Table 4.4-3. Alternative 1 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Plant Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Bakersfield Cactus	0	0	0	0	0	0	0
Barstow Wooly Sunflower	5.8	0	8.4	138	0	0	12.6
Charlotte's Phacelia	2.2	0.6	4.1	168	0	0	5.9

Table 4.4-3. Alternative 1 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Plant Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Clokey's Cryptantha	4.1	0	6	215	0	0	7
Cushenbury Buckwheat	0.6	0.2	1.2	101	0	0	1.7
Cushenbury Milk Vetch	1.0	1.7	3.9	216	0	0	2.6
Darwin Rock Cress	0	0	0	0	0	0	0.4
Death Valley Sandpaper Plant	3.1	0	4.5	226	0	0	11.1
Desert Cymopterus	19.3	0	28.1	62	0	0	10.6
Kelso Creek Monkeyflower	3.1	0	4.5	151	0	0	27
Kern Buckwheat	0.8	0	1.2	23	0	0	0.2
Lane Mountain Milk Vetch	5.3	0.3	8.1	4	0	0	10.9
Little San Bernardino Mountains Gilia	1.7	0	2.5	79	0	0	1
Mojave Monkeyflower	8.4	0	12.2	334	0	0	15.6
Mojave Tarplant	0.1	0	0.1	0	0	0	1.1
Ninemile Canyon Phacelia	0	0	0	0	0	0	3
Parish's Daisy	1.1	2.5	5.2	241	0	0	3.4
Parish's Phacelia	4.8	0.3	7.4	109	0	0	11.4
Red Rock Poppy	26.3	0	38.3	0	0	0	24.8
Ripley's Cymopterus	0.5	0	0.7	44	0	0	1.8
Robinson's Monardella	0	0	0	0	0	0	0.2
Short-joint Beavertail	0	0	0	17	0	0	0.4
White-margined Beardtongue	12.8	0	18.6	547	0	0	8

Table 4.4-4. Alternative 1 - Acreage and Mileage of Routes Within Designated Areas for Unusual Plant Assemblages

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
I A 3 Olancha Greasewood Assemblage	13.6	0	19.8	1382	0	0	48.8
I B 3 Kelso Valley Oak Woodland Assemblage	0	0	0	7	0	0	17
I D 2 Desert Saltbush Assemblage	883.7	5.5	1293	9240	0	0	1200.8
II E Yuha Desert/Cronese Valley/Ward-Chemehuevi Valley Crucifixion Thorn Assemblage	2.3	0	3.3	15	0	0	11.1
II F Ord Mountain Jojoba Assemblage	0	0	0	0	0	0	0
III B 1 Mesquite Thickets	11	1	17.5	746	0	0	10.3
III B 2 Salt and Brackish Water Marshes Vegetation	0.6	0	0.9	7	0	0	0
III B 4 Palm Oases Vegetation	4.6	0	6.7	324	0	0	3.9
IV A 5 Mojave Sink Desert Willow Assemblage	4.2	0	6.1	339	0	0	7.2
IV B 1 Johnson Valley/Lucerne Valley Creosote Bush Clones	242.4	15.8	375.6	9361	0	0	797.3
IV B 2 Fry Mountains Ancient Mojave Yucca Clones	0	0	0	0	0	0	0
IV C 3 Pipes Canyon Huge Joshua Trees	57.5	0	83.6	3466	0	0	42.4

The carbonate endemic plant species are mostly within the Bighorn subregion for route designation. The routes within the habitat have been designated as limited, with motorized use restricted to claimholders, landowners and authorized persons. The terrain generally prevents off-road travel, and use of these roads is infrequent. The mileage of designated routes within the Carbonate Endemic Plants Research Natural Area under each alternative is discussed in Section 4.11.

Alternative 1 Minimization and Mitigation Measures

Table 2.3-1 describes the network-wide minimization and mitigation measures that are currently specified in the CDCA Plan, WEMO Plan, and/or the Court's Remedy Order, and which are therefore applicable under Alternative 1, the No Action Alternative. Whether they were applied during the route designation process or are mitigation measures, these measures act to reduce impacts to vegetation. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 300 feet outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for new direct or indirect effects to vegetation, as compared to pre-2006 conditions before these limitations were enacted. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific vegetation impacts are considered before authorizing new motorized routes.

Maintain and enforce reduced utilization thresholds for livestock grazing based on the season of use and range conditions.

4.4.1.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to vegetation. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider vegetation and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit vegetation by facilitating adaptive management changes in response to changing on-the-ground

conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to vegetation of each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to vegetation. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The vegetation impacts of these decisions under Alternative 2 are as follows:

PA VII: It is anticipated that the overall number of SRP applications will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to vegetation.

Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. The seasonal limitations on C routes may reduce their use for motorized events, and thus have localized beneficial impacts on vegetation in those areas.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. The elimination of the Johnson Valley to Parker event is expected to be beneficial to vegetation in that area. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any effect on vegetation by

increasing the recreational use of routes that are in close proximity to sensitive vegetation communities, special-status plants, or UPAs.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. In general, the lakebeds are unvegetated, and are not associated with sensitive vegetation communities, special-status plants, or UPAs on the lakebeds; however lakebed edges may be associated with such communities. Since Koehn lakebed would be closed, and there would be no change to the status of the other three lakebeds, there would not be a direct effect to vegetation resources. Because Koehn lakebed is currently receiving relatively light use, the amount of displaced use to other routes would be low. Therefore, this plan amendment decision is not expected to have an indirect, adverse impact on vegetation by increasing the recreational use of routes in areas with sensitive vegetation communities, special-status plants, or UPAs.

PA IX: Impacts may still occur to vegetation as a result of motor vehicle use in these areas on remaining available routes, despite adopted measures, including fencing, oversight, and measures to increase public information prior to use of routes in the Rand-Fremont area.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing vegetation impacts in those areas. This decision would also reduce the amount of new disturbance, having a similar reduction in vegetation impacts. The effect of these actions would be a net beneficial impact on vegetation resources.

PA XI: Impacts to upland vegetation, UPAs, special-status plants, and native plants and native plant communities are discussed in the *Impacts Common to All Alternatives* Section. Under this alternative, grazing would be discontinued on portions of the Ord Mountain, Cantil Common and Shadow Mountain Allotments, a small portion of the Johnson Valley Allotment, and the entire Harper Lake and Cronese Lake Allotments. This reduction in grazing use of 165,893 acres would have a direct, beneficial impact on upland vegetation, UPAs, special-status plants, and native plants and native plant communities in the Western Mojave Desert.

Alternative 2 Route Designation

Section 4.4.1.2 described the general impacts to vegetation resources that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on vegetative communities, special status plants species, and UPAs. Adverse impacts would primarily occur directly through removal of vegetation, soil disturbance, and disturbance of hydrology, and would therefore be focused in areas on or adjacent to motorized routes. Indirect impacts to these resources could also occur due to the spread of invasive plants. Again, these impacts would be focused close to the routes, although they could spread to adjacent areas. The mileage of routes associated with vegetative communities, special status plants, and UPAs under Alternative 2 is presented in Tables 4.4-5. 4.4-6, and 4.4-7, respectively.

Table 4.4-5. Alternative 2 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Agriculture	0	0	0	5	0	0	1.5
Arizonan upland Sonoran desert scrub	0.6	0	0.9	7	0	0	0.1
California Annual and Perennial Grassland	61.3	0.5	89.9	716	0	0	62.2
California annual forb/grass vegetation	7.6	0	11.1	84	0.2	0	30.5
Californian broadleaf forest and woodland	0.6	0.1	1	9	0	0.1	5.6
Californian evergreen coniferous forest and woodland	15.6	0	22.7	186	0	0	40.3
Californian mesic chaparral	0.3	0	0.4	5	0	0	0.3
Californian montane conifer forest	20.4	0.2	30	244	0	2.2	23.9
Californian warm temperate marsh/seep	0	0	0	0	0	0	0.1
Californian xeric chaparral	5.8	0.1	8.6	75	0	0	5.8
Central and south coastal California seral scrub	0	0	0	0	0	0	0.5
Central and South Coastal Californian coastal sage scrub	22.4	1.9	35.3	278	0	0	53.3
Desert Playa	76.9	7.8	123.2	1006	0	0	148.4
Developed	16.8	1	25.9	202	0.1	0	96.5
Disturbed Lands	3.7	2.5	9	63	0	0	17.4
Great Basin cool semi-desert alkali basin	0.3	0	0.4	3	0	0	0.4

Table 4.4-5. Alternative 2 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Inter-Mountain Dry Shrubland and Grassland	260.8	106.6	534.4	17	1.4	13.5	1094.9
Inter-Mountain West mesic tall sagebrush shrubland and steppe	4.9	0.5	7.9	58	0.1	0.9	32.3
Intermontane deep or well-drained soil scrub	74	1.6	110	881	0	0	240.6
Intermontane seral shrubland	3.3	0.5	5.5	41	0	0	10.1
Intermountain Shadscale - Saltbush Scrub	96.7	0.9	142	1086	0	0	203.6
Lower Bajada and Fan Mojavean-Sonoran desert scrub	2721	183.4	4224.6	32663	26.4	11.3	7043.3
Madrean Warm Semi-Desert Wash Woodland/Scrub	6.7	0	9.7	72	0	0.3	11.9
Mediterranean California naturalized annual and perennial grassland	2.6	0.1	3.9	29	0	0	14.9
Mojave and Great Basin upper bajada and toeslope	133.1	9.1	206.8	1681	0	0	481.6
Mojavean semi-desert wash scrub	44.3	1.5	66.6	473	0.1	2	143.7
North American warm desert bedrock cliff and outcrop	207.3	4.7	308.4	2454	0	2.1	397.3
North American warm desert dunes and sand flats	5.4	0.1	8	66	0	0	44.2

Table 4.4-5. Alternative 2 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Not Mapped	3.9	0	5.7	1	0	0	0
Open Water	0	0	0	0	0	0	0.4
Rocky Mountain mesic subalpline forest and woodland	0	0	0	0	0	0	0.1
Rural	3.1	0.2	4.8	42	0	0	52.1
Shadscale-saltbush cool semi-desert scrub	108.7	16.1	181.5	620	0	0.3	204.5
Sonoran-Coloradan semi-desert wash woodland/scrub	15.2	0.1	22.3	162	0	0	58.2
Southern Great Basin semi-desert grassland	0.3	0	0.4	3	0	0	0.2
Southwestern North American introduced riparian scrub	0.2	0	0.3	2	0	0	1.6
Southwestern North American riparian evergreen and deciduous woodland	0.1	0	0.1	1	0	0	0.8
Southwestern North American Riparian, Flooded and Swamp Forest/Scrubland	1.6	0.7	3.3	11	0	0	5.9
Southwestern North American riparian/wash scrub	0	0	0	0	0	0	0.3
Southwestern North American salt basin and high marsh	4	2.5	9.5	75	0	0	25.4

Table 4.4-5. Alternative 2 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Western Great Basin montane conifer woodland	18.2	0.8	27.6	220	0	2.5	40.8
Western Mojave and Western Sonoran Desert borderland chaparral	0	0	0	1	0	0	0.3

Table 4.4-6. Alternative 2 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Plant Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Bakersfield Cactus	0	0	0	0	0	0	0
Barstow Wooly Sunflower	0	0	0	48	0	0	0
Charlotte's Phacelia	0	0	0	28	0	0	0
Clokey's Cryptantha	0	0	0	48	0	0	0
Cushenbury Buckwheat	0	0	0	16	0	0	0.4
Cushenbury Milk Vetch	2.6	0	3.8	37	0	0	2.7
Darwin Rock Cress	0	0	0	0	0	0	0
Death Valley Sandpaper Plant	2.9	0.7	5.2	42	0	0	8.6
Desert Cymopterus	4.9	0	7.1	52	0	0	7.1
Kelso Creek Monkeyflower	2.4	0	3.5	28	0	0	3.5
Kern Buckwheat	0.7	0	1	7	0	0.1	0.3
Lane Mountain Milk Vetch	0.4	0	0.6	4	0	0	16.2
Little San Bernardino Mountains Gilia	1.2	0	1.7	20	0	0	1

Table 4.4-6. Alternative 2 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Plant Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mojave Monkeyflower	6	0	8.7	70	0	0	18.1
Mojave Tarplant	0	0	0	0	0	0	1.2
Ninemile Canyon Phacelia	0	0	0	0	0	0	0
Parish's Daisy	2.6	0.2	4.1	42	0	0	4.1
Parish's Phacelia	2.9	0.2	4.5	35	0	0	13.9
Red Rock Poppy	6.3	0	9.2	0	0	0	31.2
Ripley's Cymopterus	0.6	0	0.9	8	0	0	1.5
Robinson's Monardella	0	0	0	0	0	0	0.2
Short-joint Beavertail	0.2	0	0.3	3	0	0	0.2
White-margined Beardtongue	7.9	0	11.5	89	0	0	12.6

Table 4.4-7. Alternative 2 - Acreage and Mileage of Routes Within Designated Areas for Unusual Plant Assemblages

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
I A 3 Olancha Greasewood Assemblage	19.2	0	27.9	234	0	0	42.8
I B 3 Kelso Valley Oak Woodland Assemblage	0	0	0	0	0	0	15.8
I D 2 Desert Saltbush Assemblage	588	3.6	860.5	6850	0	1	1477.5
II E Yuha Desert/Cronese Valley/ Ward-Chemehuevi Valley Crucifixion Thorn Assemblage	1.2	0	1.7	15	0	0	12.2

Table 4.4-7. Alternative 2 - Acreage and Mileage of Routes Within Designated Areas for Unusual Plant Assemblages

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
II F Ord Mountain Jojoba Assemblage	0	0	0	0	0	0	0
III B 1 Mesquite Thickets	11.2	0.2	16.6	126	0	0	10.8
III B 2 Salt and Brackish Water Marshes Vegetation	0	0.6	0.9	0	0	0	0
III B 4 Palm Oases Vegetation	4.6	0	6.7	55	0	0	3.9
IV A 5 Mojave Sink Desert Willow Assemblage	4.2	0	6.1	52	0	0	7.2
IV B 1 Johnson Valley/Lucerne Valley Creosote Bush Clones	229.7	2.4	337.6	2854	0	0	805.5
IV B 2 Fry Mountains Ancient Mojave Yucca Clones	0	0	0	0	0	0	0
IV C 3 Pipes Canyon Huge Joshua Trees	52.6	1.7	79	646	0	0	44.8

The carbonate endemic plant species are mostly within the Bighorn subregion for route designation. The routes within the habitat have been designated as limited, with motorized use restricted to claimholders, landowners and authorized persons. The terrain generally prevents off-road travel, and use of these roads is infrequent. The mileage of designated routes within the Carbonate Endemic Plants Research Natural Area under each alternative is discussed in Section 4.11.

Alternative 2 Minimization and Mitigation Measures

Table 2.3-5 describes the network-wide minimization and mitigation measures that would be applied under Alternative 2. Many of these measures would act to reduce impacts to vegetation. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for direct

or indirect effects to vegetation. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific vegetation impacts are considered before authorizing new motorized routes.

Maintain and enforce reduced utilization thresholds for livestock grazing based on the season of use and range conditions.

4.4.1.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on vegetation is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions to vegetation under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. Alternative 3 could potentially impact the suspected Red Rock Poppy occurrence south of the Spangler Hills Open Area. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known the vegetation impacts of those routes would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. In general, the lakebeds are unvegetated, and are not associated with sensitive vegetation communities, special-status plants, or UPAs. Therefore, this decision would not have any direct effect on vegetation resources on the lakebeds.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The species Clokey's cryptantha and Red Rock Poppy occur within the Rand Mountains-Fremont Valley Management Area. In addition, two

UPAs, the Salt and Brackish Water Marshes Vegetation and the Desert Saltbrush Assemblage, occur within the area. Not requiring a visitor to complete an educational orientation program before visiting an area may result in an adverse impact if the visitor is unaware of the special resources within the particular area. These impacts maybe overcome through other educational mediums and materials such as kiosks and brochures.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing vegetation impacts in those areas. This decision would also reduce the amount of new disturbance, having a similar reduction in vegetation impacts. The effect of these actions would be a net beneficial impact on vegetation resources located adjacent to the routes that are designated as available for motorized use outside of DWMAs.

PA XI: Impacts to upland vegetation, UPAs, special-status plants, and native plants and native plant communities are discussed in the *Impacts Common to All Alternatives* Section. Under this alternative, grazing would be discontinued on the Buckhorn, Harper Lake, Cronese Lake, Cady Mountain, Johnson Valley, Double Mountain, and Oak Creek Allotments. This reduction in grazing would have a direct, beneficial impact on upland vegetation, UPAs, special-status plants, and native plants and native plant communities in the Western Mojave Desert.

Alternative 3 Route Designation

Section 4.4.1.2 described the general impacts to vegetation resources that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on vegetative communities, special status plants species, and UPAs. Adverse impacts would primarily occur directly through removal of vegetation, soil disturbance, and disturbance of hydrology, and would therefore be focused in areas on or adjacent to motorized routes. Indirect impacts to these resources could also occur due to the spread of invasive plants. Again, these impacts would be focused close to the routes, although they could spread to adjacent areas. The mileage of routes associated with vegetative communities, special status plants, and UPAs under Alternative 3 is presented in Tables 4.4-8. 4.4-9, and 4.4-10, respectively.

Table 4.4-8. Alternative 3 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Agriculture	1.5	0	2.2	32	0	0	0
Arizonan upland Sonoran desert scrub	0.7	0	1	16	0	0	0

Table 4.4-8. Alternative 3 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
California Annual and Perennial Grassland	90.5	2.6	135.4	1922	0	0	32.7
California annual forb/grass vegetation	30.3	0.3	44.5	459	0.2	0	9
Californian broadleaf forest and woodland	3.7	0.4	6.0	106	0	0.1	2.2
Californian evergreen coniferous forest and woodland	46.2	1.2	68.9	1095	0.2	0.1	10.3
Californian mesic chaparral	0.4	0	0.6	14	0	0	0.2
Californian montane conifer forest	35.3	0.2	51.6	781	0	2.3	10.7
Californian warm temperate marsh/seep	0	0	0	0	0	0	0.1
Californian xeric chaparral	8.7	0	12.7	200	0	0	2.9
Central and south coastal California seral scrub	0	3.5	0	0	0	0	0.5
Central and South Coastal Californian coastal sage scrub	62.2	0	90.5	1277	0	0	17.6
Desert Playa	154.4	39.2	281.6	3592	0	0	42.1
Developed	79.6	6	124.5	1550	0.9	0	22.3
Disturbed Lands	15.7	0	22.8	236	0.1	0	7.9
Great Basin cool semi-desert alkali basin	0.7	0	1	14	0	0	0

Table 4.4-8. Alternative 3 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Inter-Mountain Dry Shrubland and Grassland	1055.5	11.5	1552	22793	27.4	21.3	378.1
Inter-Mountain West mesic tall sagebrush shrubland and steppe	15.7	0.8	24	414	0	1	21.7
Intermontane deep or well-drained soil scrub	204.1	2.6	300.7	4561	1.1	0	109.7
Intermontane seral shrubland	8.9	1.4	15	205	0	0	3.8
Intermountain Shadscale - Saltbush Scrub	197.3	0.8	288.1	2503	1.3	0	104.5
Lower Bajada and Fan Mojavean-Sonoran desert scrub	6585.3	161.6	9813.7	122258	56.2	4.9	3313.9
Madrean Warm Semi-Desert Wash Woodland/ Scrub	14.9	0.6	22.5	324	0	0	3.7
Mediterranean California naturalized annual and perennial grassland	8.2	0	11.9	120	0	0	9.4
Mojave and Great Basin upper bajada and toeslope	390.9	12.6	586.9	10166	0	0.7	223.2
Mojavean semi-desert wash scrub	130.9	3.8	195.9	1765	0.2	1.2	56.9

Table 4.4-8. Alternative 3 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
North American warm desert bedrock cliff and outcrop	478.7	13.9	716.5	10339	3.7	0	124.7
North American warm desert dunes and sand flats	36.3	0.3	53.2	813	0	0	13.3
Not Mapped	0	0	0	1	0	0	0
Open Water	0.4	0	0.6	7	0	0	0
Rocky Mountain mesic subalpline forest and woodland	0.1	0	0.1	0	0	0	0
Rural	51.6	0	75.1	1197	0.1	0	3.7
Shadscale-saltbush cool semi-desert scrub	282.7	9.9	425.6	3091	4.7	0	36.8
Sonoran-Coloradan semi-desert wash woodland/ scrub	51.4	0.8	75.9	652	0	0	22
Southern Great Basin semi-desert grassland	0.3	0	0.4	3	0	0	0.2
Southwestern North American introduced riparian scrub	1.7	0	2.5	31	0	0	0.1
Southwestern North American riparian evergreen and deciduous woodland	0.8	0	1.2	16	0	0	0.1

Table 4.4-8. Alternative 3 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Southwestern North American Riparian, Flooded and Swamp Forest/ Scrubland	2.4	0	3.5	36	0	0	5.9
Southwestern North American riparian/wash scrub	0	0	0	1	0	0	0.3
Southwestern North American salt basin and high marsh	18.4	3.1	31.3	349	0	0.2	10.9
Western Great Basin montane conifer woodland	38.7	0.3	56.7	853	0	0	0
Western Mojave and Western Sonoran Desert borderland chaparral	0.4	0	0.6	10	0.1	3.3	20.4

Table 4.4-9. Alternative 3 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Plant Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Bakersfield Cactus	0	0	0	0	0	0	0
Barstow Wooly Sunflower	7.8	0	11.3	92	0	0	11.5
Charlotte's Phacelia	5.4	0	7.9	108	0	1.7	1.8

Table 4.4-9. Alternative 3 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Plant Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Clokey's Cryptantha	10	0	14.5	172	0	0	0.3
Cushenbury Buckwheat	2.1	0	3.1	61	0	0	0.5
Cushenbury Milk Vetch	4.5	0	6.5	108	0	0	0.9
Darwin Rock Cress	0	0	0	0	0	0	0
Death Valley Sandpaper Plant	15.8	0	23	275	0	0	0
Desert Cymopterus	8.4	0	12.2	97	0	0	3.6
Kelso Creek Monkeyflower	5.5	0	8	141	0	0	0.4
Kern Buckwheat	0.8	0	1.2	14	0	0.1	0.1
Lane Mountain Milk Vetch	5.5	0	8	63	0	0	11.1
Little San Bernardino Mountains Gilia	2.8	0	4.1	53	0	0	0
Mojave Monkeyflower	15.8	0.5	23.7	249	0	0	8.2
Mojave Tarplant	1.4	0	2	0	0	0	0
Ninemile Canyon Phacelia	0	0	0	0	0	0	0
Parish's Daisy	5.9	0.1	8.7	151	0	0	0.8
Parish's Phacelia	12.4	1.4	20.1	256	0	0	3.2
Red Rock Poppy	34.1	0	49.6	0	0	0	4.9
Red Rock Tarweed	34.1	0	49.6	0	0	0	4.9
Ripley's Cymopterus	2.2	0	3.2	41	0	0	0.2
Robinson's Monardella	0.2	0	0.3	5	0	0	0

Table 4.4-9. Alternative 3 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Plant Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Short-joint Beavertail	0.4	0	0.6	9	0	0	0
White-margined Beardtongue	20.2	0.2	29.7	401	0	0	0.5

Table 4.4-10. Alternative 3 - Acreage and Mileage of Routes Within Designated Areas for Unusual Plant Assemblages

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
I A 3 Olancha Greasewood Assemblage	59.7	0	86.8	1343	0	0	4.2
I B 3 Kelso Valley Oak Woodland Assemblage	13.8	0	20.1	2293	0	0	2.8
I D 2 Desert Saltbush Assemblage	1300.3	3.6	1896.6	16348	7	0.9	810.1
II E Yuha Desert/ Cronese Valley/ Ward-Chemehuevi Valley Crucifixion Thorn Assemblage	9.1	0	13.2	185	0	0	5.1
II F Ord Mountain Jojoba Assemblage	0	0	0	0	0	0	0
III B 1 Mesquite Thickets	16	0	23.3	299	0	0	7.5
III B 2 Salt and Brackish Water Marshes Vegetation	0	0.9	1.3	7	0	0	0

Table 4.4-10. Alternative 3 - Acreage and Mileage of Routes Within Designated Areas for Unusual Plant Assemblages

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
III B 4 Palm Oases Vegetation	5.2	0	7.6	118	0	0	3.9
IV A 5 Mojave Sink Desert Willow Assemblage	5.5	0.8	9.2	144	0	0	5.3
IV B 1 Johnson Valley/Lucerne Valley Creosote Bush Clones	0	0	0	2451	0	0	0
IV B 2 Fry Mountains Ancient Mojave Yucca Clones	748.7	20.4	1118.7	10977	0	0	300
IV C 3 Pipes Canyon Huge Joshua Trees	88.6	0	128.9	1881	0	0	13.4

The carbonate endemic plant species are mostly within the Bighorn subregion for route designation. The routes within the habitat have been designated as limited, with motorized use restricted to claimholders, landowners and authorized persons. The terrain generally prevents off-road travel, and use of these roads is infrequent. The mileage of designated routes within the Carbonate Endemic Plants Research Natural Area under each alternative is discussed in Section 4.11.

Alternative 3 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 3. Many of these measures would act to reduce impacts to vegetation. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for direct or indirect effects to vegetation. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific vegetation impacts are considered before authorizing new motorized routes.

Maintain and enforce reduced utilization thresholds for livestock grazing on active allotments based on the season of use and range conditions.

4.4.1.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on vegetation is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on vegetation. However, this decision would make it easier for BLM to consider vegetation impacts in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on vegetation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The vegetation impacts of these decisions under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. Alternative 4 could potentially impact the suspected Red Rock Poppy occurrence south of the Spangler Hills Open Area. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2. The vegetation impacts at Cuddeback, Coyote, and Chisholm Trail Lake lakebeds would be the same as those described for Alternative 3, which would also designate these lakebeds as open to motorized vehicles. In general, the lakebeds are unvegetated, and are not associated with

sensitive vegetation communities, special-status plants, or UPAs. Therefore, this decision would not have any direct effect on vegetation resources on the lakebeds.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing vegetation impacts in those areas. This decision would also reduce the amount of new disturbance, having a similar reduction in vegetation impacts. The effect of these actions would be a net beneficial impact on vegetation resources located adjacent to the routes that are designated as available for motorized use outside of DWMAs.

PA XI: Impacts to upland vegetation, UPAs, special-status plants, and native plants and native plant communities are discussed in the *Impacts Common to All Alternatives* Section. Under this alternative, grazing would be discontinued on Harper Lake, Cronese Lake, and a small portion of the Johnson Valley Allotments. This reduction in grazing use of 78,991 acres would have a direct, beneficial impact on upland vegetation, UPAs, special-status plants, and native plants and native plant communities in the Western Mojave Desert.

Alternative 4 Route Designation

Section 4.4.1.2 described the general impacts to vegetation resources that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on vegetative communities, special status plants species, and UPAs. Adverse impacts would primarily occur directly through removal of vegetation, soil disturbance, and disturbance of hydrology, and would therefore be focused in areas on or adjacent to motorized routes. Indirect impacts to these resources could also occur due to the spread of invasive plants. Again, these impacts would be focused close to the routes, although they could spread to adjacent areas. The mileage of routes associated with vegetative communities, special status plants, and UPAs under Alternative 4 is presented in Tables 4.4-11. 4.4-12, and 4.4-13, respectively.

Table 4.4-11. Alternative 4 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Agriculture	0	0	0	6	0	0	1.5

Table 4.4-11. Alternative 4 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Arizonan upland Sonoran desert scrub	0.4	0	0.6	7	0	0	0.3
California Annual and Perennial Grassland	58	1.8	87	1325	0	2.6	61.6
California annual forb/grass vegetation	9.7	0	14.1	123	0.6	0	28.3
Californian broadleaf forest and woodland	0.5	0	0.7	12	0	0.2	5.6
Californian evergreen coniferous forest and woodland	10.3	0	15	237	0	1.2	44.3
Californian mesic chaparral	0	0	0	0	0	0	0.6
Californian montane conifer forest	21.8	0	31.7	506	0	0.4	24.4
Californian warm temperate marsh/seep	0	0	0	0	0	0	0.1
Californian xeric chaparral	1.2	0.2	2	35	0	0	10.2
Central and south coastal California seral scrub	0	0	0	0	0	0	0.5
Central and South Coastal Californian coastal sage scrub	15.2	1.2	23.9	343	0	0	60.4
Desert Playa	83.4	45.6	187.6	2472	0	0	100.7
Developed	30.3	2.5	47.7	523	0	0.2	70.1
Disturbed Lands	5.8	0	8.4	90	0	0	17.8

Table 4.4-11. Alternative 4 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Great Basin cool semi-desert alkali basin	0.3	0	0.4	6	0	0	0.4
Inter-Mountain Dry Shrubland and Grassland	503.3	7.7	743.3	9428	6.3	4	964.6
Inter-Mountain West mesic tall sagebrush shrubland and steppe	12	0.2	17.7	249	0.1	0.5	26.8
Intermontane deep or well-drained soil scrub	101.9	6.4	157.5	2027	7.7	0.3	200.9
Intermontane seral shrubland	4.2	0.7	7.1	95	0	0	8.6
Intermountain Shadscale - Saltbush Scrub	158.2	0.6	231	2035	0	0	135.1
Lower Bajada and Fan Mojavean-Sonoran desert scrub	3686.7	124	5542.8	61536	36.7	5.2	6126.9
Madrean Warm Semi-Desert Wash Woodland/ Scrub	6.5	2.5	13.1	181	0	0	9.6
Mediterranean California naturalized annual and perennial grassland	4.7	0	6.8	70	0	0.2	13.4
Mojave and Great Basin upper bajada and toeslope	180.3	14.2	282.9	3769	0	1.3	429.9
Mojavean semi-desert wash scrub	99.4	5.3	152.3	1327	8.1	1.1	80.5

Table 4.4-11. Alternative 4 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
North American warm desert bedrock cliff and outcrop	275	15	421.8	6218	0.5	3.1	318.5
North American warm desert dunes and sand flats	13.8	0.8	21.2	330	0	0	34.4
Not Mapped	0	0	0	0	0	0	0
Open Water	0	0	0	0	0	0	0.4
Rocky Mountain mesic subalpline forest and woodland	0.1	0	0.1	0	0	0	0
Rural	5	0	7.3	114	0	0	48.1
Shadscale-saltbush cool semi-desert scrub	158.6	4.3	236.9	1679	2.6	0	164.7
Sonoran-Coloradan semi-desert wash woodland/scrub	36.4	1.5	55.1	477	0	0.9	34.4
Southern Great Basin semi-desert grassland	0.3	0	0.4	0	0	0	0.2
Southwestern North American introduced riparian scrub	0.3	0	0.4	6	0	0	1.4
Southwestern North American riparian evergreen and deciduous woodland	0.3	0	0.4	4	0	0	0.6

Table 4.4-11. Alternative 4 - Acreage and Mileage of Routes Within Identified Vegetative Communities

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Southwestern North American Riparian, Flooded and Swamp Forest/ Scrubland	2.1	0.3	3.5	22	0	0	6.1
Southwestern North American riparian/wash scrub	0.3	0	0.4	5	0	0	0
Southwestern North American salt basin and high marsh	9.1	2	16.1	172	0	0.2	21.1
Western Great Basin montane conifer woodland	24.7	1.8	38.5	583	0	1.4	35.3
Western Mojave and Western Sonoran Desert borderland chaparral	0	0	0	1	0	0	0.4

Table 4.4-12. Alternative 4 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Plant Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Bakersfield Cactus	0	0	0	0	0	0	0
Barstow Wooly Sunflower	5.8	0	8.4	78	0	0	12.2
Charlotte's Phacelia	1.2	0.6	2.6	38	0.2	0	6.8
Clokey's Cryptantha	4.1	0	6	71	0	0	7
Cushenbury Buckwheat	0.2	0.2	0.6	23	0	0.2	1.9

Table 4.4-12. Alternative 4 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Plant Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Cushenbury Milk Vetch	0.7	1.8	3.6	65	0	0	3
Darwin Rock Cress	0	0	0	0	0	0	0
Death Valley Sandpaper Plant	8.8	0	12.8	194	0.3	0	5.1
Desert Cymopterus	5.4	0	7.9	65	0	0	6.5
Kelso Creek Monkeyflower	3.3	0	4.8	69	0	0	2.5
Kern Buckwheat	0.7	0	1	13	0	0	0.4
Lane Mountain Milk Vetch	5.3	0.3	8.1	65	0	0	10.9
Little San Bernardino Mountains Gilia	1.5	0.2	2.5	39	0	0	1
Mojave Monkeyflower	8.4	0	12.2	142	0	0	15.6
Mojave Tarplant	0.1	0	0.1	0	0	0	1.1
Ninemile Canyon Phacelia	0.3	0	0.4	7	0	0	0
Parish's Daisy	1	2.5	5.1	90	0	0	3.7
Parish's Phacelia	7.4	0.3	11.2	138	0	0	8.8
Red Rock Poppy	13.8	0	20.1	0	0	0	25.1
Ripley's Cymopterus	0.4	0	0.6	8	0	0	1.7
Robinson's Monardella	0	0	0	0	0	0	0.2
Short-joint Beavertail	0	0	0	0	0	0	0.4
White-margined Beardtongue	12.8	0	18.6	288	0	0	8

Table 4.4-13. Alternative 4 - Acreage and Mileage of Routes Within Designated Areas for Unusual Plant Assemblages

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
I A 3 Olancha Greasewood Assemblage	29.5	0	42.9	694	0	0	33
I B 3 Kelso Valley Oak Woodland Assemblage	0	0	0	0	0	0	17
I D 2 Desert Saltbush Assemblage	889.4	5.5	1301.7	5164	0	2..5	1178.6
II E Yuha Desert/Cronese Valley/Ward-Chemehuevi Valley Crucifixion Thorn Assemblage	1.2	0	1.7	15	0	0	12.2
II F Ord Mountain Jojoba Assemblage	0	0	0	0	0	0	
III B 1 Mesquite Thickets	11.7	1.4	19.1	270	0	0	9.2
III B 2 Salt and Brackish Water Marshes Vegetation	0.6	0	0.9	7	0	0	0
III B 4 Palm Oases Vegetation	4.6	0	6.7	110	0	0	3.9
IV A 5 Mojave Sink Desert Willow Assemblage	4.3	0.9	7.6	122	0	0	6.3
IV B 1 Johnson Valley/Lucerne Valley Creosote Bush Clones	248.8	15.9	385	4393	0	0	792
IV B 2 Fry Mountains Ancient Mojave Yucca Clones	0	0	0	0	0	0	0

Table 4.4-13. Alternative 4 - Acreage and Mileage of Routes Within Designated Areas for Unusual Plant Assemblages

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
IV C 3 Pipes Canyon Huge Joshua Trees	60.1	0.7	88.4	6797	0	0	39.1

The carbonate endemic plant species are mostly within the Bighorn subregion for route designation. The routes within the habitat have been designated as limited, with motorized use restricted to claimholders, landowners and authorized persons. The terrain generally prevents off-road travel, and use of these roads is infrequent. The mileage of designated routes within the Carbonate Endemic Plants Research Natural Area under each alternative is discussed in Section 4.11.

Alternative 4 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 4. Many of these measures would act to reduce impacts to vegetation. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for direct or indirect effects to vegetation. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific vegetation impacts are considered before authorizing new motorized routes.

Maintain and enforce reduced utilization thresholds for livestock grazing on active allotments based on the season of use and range conditions.

4.4.2 Wildlife Resources

4.4.2.1 Introduction

Affected Environment Summary

Section 3.4.4.2 describes wildlife present in the planning area. A total of 50 special status wildlife species were identified as potentially occurring within the planning area (BLM 2005, 2013a,b; Dudek and ICF International 2012). BLM has determined that thirty of these special status wildlife species would not be affected by the proposed action or alternatives based on their habitat requirements and/or known distributions. Of the 20 species potentially affected by the proposed action or alternatives, 19 species have known suitable habitat locations within the project area. Similar to vegetation, these special status wildlife species are commonly located in areas that are specifically designated for protection of these species, including designated critical habitat (DCH), DWMAs, ACECs, or other conservation areas. These special designations

commonly carry management prescriptions to protect these species, including limitations on future land uses, and limitations on motorized vehicle use.

Methodology

The 2005 WEMO EIS analyzed the impacts of the 5,098 mile route network evaluated in that EIS with respect to wildlife habitat, wildlife corridors, and special status wildlife species. The analysis included a discussion of the effects of OHV use on specific wildlife species, including the desert tortoise, Mohave ground squirrel, and others. The Court evaluated the analysis specific to the Mojave fringe-toed lizard and found that the analysis was inadequate, because it reached a conclusion of no impacts while at the same time acknowledging that there was no recent data on population status and density. The Remedy Order (pg. 15) required BLM to implement additional information gathering and monitoring regarding the status of the Mojave fringe-toed lizard and its habitat. Finally, the Court made a general finding, for all resources, that the range of route network alternatives evaluated was inadequate. No other deficiencies were identified in the analysis of impacts to any other wildlife species, corridors, or habitat.

For this SEIS for the WMRNP, BLM performed the following:

- The route designation process for each alternative included evaluation of the location of each route with respect to the inventoried locations of wildlife corridors and habitat for special status wildlife species, including the Mojave fringe-toed lizard.
- Conducted focused surveys for the Mojave fringe-toed lizard in nine locations in 2012 and 2013. The results of those surveys are presented in Section 3.4, and they were used in the GIS analysis during the development of route network alternatives.
- Conducted route evaluation and quantified the miles of motorized routes that could potentially impact wildlife habitat and corridors across four alternative route networks, ranging from 4,293 to 10,428 miles in size.
- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, changes in conditions within the planning area, and changes in the applicable regulatory framework for wildlife. This additional information is incorporated into the evaluation in Section 4.4.2.2 below.
- Evaluated the impacts of changes in grazing allocation on habitat for special status wildlife species associated with each of the alternatives.
- Addressed cumulative impacts of both OHV use and grazing on wildlife corridors and habitat for special status species.

4.4.2.2 Impacts Common to All Alternatives

As with vegetation, motorized vehicle use and grazing have both direct and indirect effects on wildlife habitat and individuals. By removing vegetation and compacting soil, motorized vehicle routes directly occupy land area that would otherwise be occupied by wildlife, and eliminate plants that would serve as forage and shelter. In addition, motorized vehicles present a direct strike risk to individuals, reducing populations in close proximity to motorized routes.

Each of the indirect effects discussed with respect to vegetation, including changes in hydrology, increase in invasive plants, changes in fire ecology, edge effects, and proliferation of disturbance

due to operation of vehicles outside of the route and grazing would have a similar effect on the quality of those areas for wildlife habitat. Motorized vehicle use would also potentially have an indirect effect on wildlife, such as nesting birds, through the introduction of noise, dust, and light sources. Maintaining routes as motorized routes also acts to provide human access to areas of sensitive wildlife habitat. Increased human access can have an indirect adverse effect on wildlife by introducing noise sources, attracting predators such as ravens, and by allowing dogs to have access to sensitive wildlife areas. Motorized vehicle impacts are generally proportionate to the number of existing routes in an area. Both allowed uses (e.g., vehicle use that remains on existing roads) and prohibited uses (i.e., cross-country travel outside BLM Open Areas, dumping, vandalism, collection) are more likely to occur where roads are relatively more common. Grazing impacts are generally proportionate to the acreage of active allotments allocated to livestock.

The edge effect of an increase in vegetation density due to precipitation runoff can result in attracting wildlife to the edges of routes (Ouren and others 2007). This can result in increased mortality due to vehicle strikes. This edge effect also tends to increase the density and vigor of non-native invasive species which are generally poorer quality food resources for herbivorous sensitive species such as the desert tortoise.

OHV routes can also impact wildlife habitat by causing fragmentation, reducing patch size, and increasing the ratio of edge to interior. These effects can be adverse to species which require large blocks of contiguous habitat, or corridors linking patches of habitat (or linking management units such as Critical Habitat Units for desert tortoise). Severing or impinging upon linkages may be especially significant in relation to the ability of wildlife species to move in response to climate change. The presence of routes can inhibit animal movement due to reluctance of individuals to cross even narrow routes (Ouren and others 2007).

Wildlife impacts were considered in the development of alternative goals and objectives, in designation of individual routes, and in defining specific implementation parameters. Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. The goals and objectives developed for Alternative 2 focus on enhancing sensitive resource values and areas, including threatened and endangered species and other sensitive biological and non-biological landscape factors, and managing access to de-emphasize casual multiple-use motorized and mechanized touring. In contrast, the goals and objectives for Alternative 3 focus on meeting the diverse transportation, access, and recreational needs of the public, and managing access to emphasize casual multiple-use motorized and mechanized touring.

Wildlife impacts were also considered by evaluating route locations with respect to DWMAs, ACECs, DCH, the Mohave Ground Squirrel Core Areas, nest locations (for golden eagles), wildlife corridors, and other identified habitat features. In addition, the WMRNP alternatives include consideration of stopping and parking distances from routes in order to minimize disturbance in previously undisturbed areas, thus reducing the potential for new impacts to wildlife habitat and individuals in those areas. Therefore, minimization of wildlife impacts was a factor both in development of the alternative route networks, and in the specific limitations placed on routes in those networks. These minimization and mitigation measures differ among

the alternatives, and are therefore discussed in more detail in Sections 4.4.2.3, 4.4.2.4, 4.4.2.5, and 4.4.2.6 below.

The general manner in which motorized vehicle use and grazing impacts wildlife is similar for many species, and therefore discussion of the effects of vehicle impacts, soil compaction, and many other impacts for each individual species would be redundant. The following discussion is focused on the desert tortoise because it has the most widespread habitat of any of the special-status wildlife species in the planning area. However, the effects discussed are expected to be applicable to other wildlife species in the planning area. Additional discussions are presented for other species where specific data regarding impacts of motorized vehicle use and grazing are available, including the Mohave ground squirrel, Mojave fringe-toed lizard, bighorn sheep, and bird species. Impacts to all special-status wildlife species, including species not discussed here, were still considered as part of the route designation process, and identification of minimization and mitigation measures. Chapter 3 presents maps of the distribution of all species within the planning area, and the tables in Sections 4.4.2.3, 4.4.2.4, 4.4.2.5, and 4.4.2.6 below summarize the mileage and acreage of routes of each designation type within the habitat of all species and differences in allocation of grazing allotments between livestock and wildlife species.

Desert Tortoise

Designating and implementing a motorized vehicle access network in DWMAs that is supported by land use laws and compatible with tortoise recovery is the single most important management action that could be implemented to minimize the widest variety of known human impacts to desert tortoise. The goal is to designate and implement a route network throughout DWMAs that would provide for public access, authorized uses, and the following desired results:

- Fewer losses of tortoises to crushing, poaching, pet collection, intentional vandalism, and similar activities requiring vehicle access;
- Less degradation and loss of occupied habitat (first priority) and suitable habitat (second priority);
- Larger blocks of unfragmented habitat, which would be achieved if vehicle use is prevented on closed routes, does not result in increased cross-country travel in adjacent areas, and promotes recovery of suitable habitats more quickly than would naturally occur;
- Route closure in higher density tortoise areas is likely to provide the most benefit in terms of avoiding mortalities and other losses;
- Route closure in lower density tortoise areas would alleviate losses of animals that are critically important to natural repatriation and population recovery.

Motorized vehicle use can have both direct and indirect effects on desert tortoises and their habitat. The primary direct effect is vehicles striking desert tortoises while driving on routes of travel. As is usually the case, hatchling desert tortoises are the most difficult individuals to detect and may be inadvertently struck by vehicles. However, they may be at somewhat less risk than sub-adult and adult desert tortoises because their territories are presumably smaller, they may move around less and therefore are less likely to encounter a road. Their propensity to be more active during cooler times of the year may extend the periods during which they are at risk from vehicle strikes.

Although larger individuals can be seen on roads more readily than the younger, smaller ones, vehicles can travel at speeds that reduce the ability of drivers to detect and avoid desert tortoises. Rises and turns in roads also decrease the ability of drivers to detect desert tortoises. The actual level of mortality that would occur along a specific road would be influenced by many variables and is difficult to predict; the level and type of use of the road by vehicles and the number of desert tortoises present during periods of heavy use are primary factors that are difficult to predict. Mortality associated with vehicle strikes would be greatest in the spring and fall, in areas where desert tortoises are most common. Along heavily used roads, the number of desert tortoises is depressed for some distance from the edge of the road; along lightly used roads, no significant difference exists in the distribution of desert tortoises (Von Seckenforff, Hoff and Marlow 2002).

Based on a review of the literature, the USGS (Ouren Et al. 2007) concludes that an "important concern" regarding OHV effects on desert tortoise is the susceptibility of this species to mortality on all types of roads. According to the Recovery Plan (USFWS 2011), effects to desert tortoise habitat from roads, routes, trails, and railroads occur during initial stages or off-highway vehicle route/trail establishment when vegetation and soils are lost or severely degraded. Hoff and Marlow (2002) as cited in the Recovery Plan (USFWS 2011) demonstrated that there is a detectible impact on the abundance of desert tortoise sign adjacent to roads and highways with traffic levels from 220 to over 5,000 vehicles per day and the extent of the detectable impacts was positively correlated with the measured traffic level; the higher the traffic counts, the greater the distance from the road reduced tortoise sign was observed. The Recovery Plan also states that Hoff and Marlow (2002) concluded that unpaved access roads with lower traffic levels may have significant effects on tortoises. As cited in the Recovery Plan, Boarman (2002) concludes that off-highway vehicle activities remain an important source of habitat degradation and could result in reductions in desert tortoise densities (Boarman 2002). Therefore, the extent of mortality of desert tortoises is anticipated to increase as the density of roads and the number of animals increase. At some point, vehicle use on roads (and other activities that accompany vehicle use) would likely reduce the number of desert tortoises to a point where the level of mortality also decreases, simply because fewer desert tortoises live in the region.

Some routes of travel are located in washes. Washes can provide important resources to desert tortoises because they often support forage plants at times when upland areas do not; desert tortoises also frequently use the banks of washes to construct their burrows. At times, desert tortoises may use washes to move through their territories; they may travel along washes more frequently in extremely rugged terrain. Consequently, vehicle use in washes has the potential to have a relatively greater degree of impact on desert tortoises than the use of roads. Adverse effects would be greatest in more narrow, vegetated washes where vehicles do not have room to maneuver around shrubs or avoid riding partially up banks; the ability of drivers to see desert tortoises in these washes is also diminished. In wide washes, where flooding causes relatively frequent disturbance and few shrubs are present, the quality of desert tortoise habitat is already reduced; therefore motorized vehicles will likely have less of an effect on desert tortoises or their habitat.

The human activities that routes of travel accommodate may pose a greater threat to desert tortoises than being struck by a moving vehicle because of the variety of indirect effects that can result. Routes of travel through the desert increase the frequency at which people can interact with desert tortoises. These interactions can lead to uninformed or malicious interactions that

result in injury, mortality, or collection of desert tortoises. Unauthorized handling or restraint of a desert tortoise could induce physiological stress that reduces the animal's ability to withstand high temperatures. Additionally, desert tortoises may seek shelter in the shade of vehicles parked along a route of travel and be crushed when those vehicles are subsequently moved. Improper disposal of food wastes and trash left by users of routes of travel can attract predators of the desert tortoise, especially common ravens. Pet dogs brought onto public lands by people using routes of travel could disturb, injure, or kill desert tortoises.

The CDCA Plan currently allows cars and trucks to drive and park up to 300 feet from a route of travel. This authorized off-road use can crush desert tortoises, which would be more difficult to see away from roads, destroy their burrows, crush shrubs that they use for cover, and disturb soils and allow invasion by non-native plant species. In some areas, recreation users prefer specific sites where they can congregate, which degrades habitat to the point that desert tortoises would be unlikely to forage or burrow in these areas.

An increase in non-native plants can also increase the spreading of fire across the desert landscape (Lovich and Bainbridge 1999, Brooks and Esque 2002). Neither desert tortoises nor the plant species upon which they depend are adapted to fire; consequently, fires could result in a substantial loss of desert tortoises and severely alter the plant community structure within their habitat (Brooks and Esque 2002). Also, non-native plants tend to provide less nutrition value than do native species.

Most routes of travel are not used on such a frequent basis that they would inhibit movement or be likely to result in traffic-induced mortality of the desert tortoise. Most use of routes of travel involves recreational activities, which generally occur at higher levels on weekends and holidays. However, some routes of travel are maintained such that the bed of the road is lowered and side berms raised so much, that if desert tortoises enter that roadway, they cannot exit. These animals are subsequently threatened with predation, exposure to extreme temperatures, collection, and collision with vehicles.

The USFWS notes that neither the BLM or the USFWS has definitive information on how differing route networks affect the desert tortoise (USFWS 2002a); obviously roadless areas would have the least adverse effect on desert tortoises and their habitat; it follows that with increasing amounts of open routes within the planning area, the greater the impact to the desert tortoise and its habitat. However, the use patterns on the open route network may be as important, particularly in areas where tortoises are more likely to be found.

The BLM grazing program was analyzed in the 2006 WEMO Plan, and the decisions from the planning effort led to grazing that was substantially curtailed in desert tortoise DWMA, with additional measures included for the allotments that are still available for grazing. In addition, a mechanism for voluntary relinquishment of active leases was adopted in the WEMO Plan. BLM is considering whether to further modify the BLM grazing program in the WEMO Planning area by completely discontinuing grazing in DWMA (or parts of allotments adjacent to DWMA). The strategy of discontinuing livestock grazing from desert tortoise recovery areas was recommended in the 1994 Recovery Plan. Although no longer specifically recommended in the 2011 Revised Recovery Plan, discontinuation of livestock grazing is consistent with the recommendation of "continuing to minimize impacts to tortoise from livestock grazing within tortoise recovery areas" (*Revised Recovery Plan for the Mojave Population of the Desert*

Tortoise, May 6, 2011, Section 2.16, p. 78). Therefore, reductions in grazing extent within DWMAs (or areas adjacent to DWMAs is considered a net benefit for this species.

Mojave Fringe-Toed Lizard

Similar to the desert tortoise, motorized vehicle use can have both direct and indirect effects on Mojave fringe-toed lizards and their habitat. The primary direct effects include vehicle collision and habitat loss or modification. It is assumed that there would be adverse impacts to the Mojave fringe-toed lizard where motorized routes pass through suitable and occupied habitat.

Although data on OHV use in habitat near the Mojave River is not available, recent observations from BLM staff indicate a low potential for OHV use off the designated routes and into the channel due to the topography of the area. This would result in minimal adverse effects to this species. Additionally, Mojave fringe-toed lizards are rarely found in the stream channel. Instead, sand bars and adjacent habitat with the preferred vegetation components are more important for this species than the stream channel. These are the same areas where designated open routes tend to be concentrated. Additional observations indicate that the road within the stream channel of the Mojave River is blown out during flood events every five years or so. These natural causes contribute to the loss of individuals as well.

Mohave Ground Squirrel

The Mohave ground squirrel (MGS) is a medium-sized species that would experience similar threats from motorized vehicles as those described for desert tortoise. OHVs may pose a threat to the MGS by crushing individuals or burrows, and degrading habitats (Gustafson 1993, Laabs 1998). With time, the plant diversity and abundance decreases in areas with intense OHV use (Laabs 1998), which reduces cover needed by the species for shade and forage. Gustafson (1993; citing Bury and Luckenbach 1977), reported that even light OHV use in the Mojave Desert can result in lost or compacted topsoil, unavailability of seeds for birds and mammals, and disrupted soil mantles. Gustafson (1993) reported, "…it is known that the squirrel is run over by vehicle[s]," but did not provide any specific reports.

There is anecdotal evidence that the MGS may be killed on both paved and dirt roads, although it has been suggested that they are too quick for this to happen. For example, during tortoise surveys conducted near Water Valley, northwest of Barstow, in 1998, LaRue crushed a juvenile male MGS on a dirt road as it attempted to cross in front of his truck. In 1997, LaRue observed a juvenile male (likely a hybrid) as it was crushed on National Trails Highway, several miles north of Helendale. One of the nine MGS observed in 1998 (LaRue, unpublished data) darted into burrows that were located in the berms of a dirt road. The juvenile female was observed for about 20 minutes eating cryptantha alongside the road, and later using two different burrows located in berms on opposite sides of the road. Recht (1977) also observed MGS feeding on Russian thistle that was congregated along shoulders of roads in northeastern Los Angeles County.

Goodlett and Goodlett (1991) have shown, in the Rand Mountains, that the heaviest vehicle impacts occur immediately adjacent to both open and closed routes. It is plausible, then, that individual MGS using resources adjacent to roads are more likely to be in harm's way than those animals occurring in roadless areas. It is also plausible that juvenile MGS, which are most likely to travel longer distances than adults, are somewhat more susceptible to vehicle impacts than adults. Although adults may still be susceptible to vehicle impacts within their somewhat- fixed

home ranges, dispersing juveniles are likely to encounter more roads than an adult living within a fixed region.

The potential to crush squirrels likely increases as the prevalence and use of roads increases in a given region. Given the relatively higher incidence of cross-country travel in open areas (1998-2001 WMP data), vehicle impacts are more likely to occur there and other places with similar densities of cross-country tracks, depending on resident and dispersing populations of the MGS.

Bighorn Sheep

OHV-related effects such as habitat fragmentation and reduced habitat connectivity are generally associated with area-sensitive wildlife species including, but not limited to, desert tortoise, mountain lion, gray wolf, and black bear. Small and medium-sized wildlife species may be more likely than larger species to experience direct OHV impacts from vehicle collisions and/or habitat destruction. For larger animals, such as the Bighorn sheep, OHV-related effects such as noise would be more likely to occur than direct mortality from vehicular impact.

Vehicular traffic is a source of noise and other stimuli which has the potential for disturbing wildlife along roads and trails. Excessive noise from OHV activities would directly impact wildlife, including potential disturbance effects from physiological impacts such as stress, and/or altered behaviors and population distribution/dispersal patterns, which can lead to declines in local population size, survivorship, and productivity (Ouren et. al. 2007).

Larger animals also exhibit responses to the intensity of traffic and traffic noise. Lyren (2001) found that coyotes changed their road-crossing periods in response to changes in traffic intensity throughout the day, and Singer (1978) reported that, in response to the shifting of truck gears, mountain goats ran away from a road edge when the truck was 1 km (0.6 mi) away from them, and they ran away from a lick that was 400 m (437.4 yd) from the road. For bighorn sheep, the most prominent potential OHV-related effects would be direct impacts from noise and general disturbance; vehicle intrusion into occupied habitat, especially lambing areas, can be a minor threat. Often, bighorn sheep will move away from otherwise suitable habitat due to increased human activity.

The potential also exists for unrestricted off-roading activities within areas where bighorn sheep are known to occur; such activities could result in destruction of plants and/or foraging habitat that bighorn sheep depend on.

Bird Summary

In addition to habitat fragmentation, routes and trails also create habitat edges, which can result in indirect edge effects related to OHVs. Often, these edge effects extend into the desert interior, well beyond a route's actual footprint. Because vegetation cover can be greater along road edges, many species may be attracted to right-of-way habitats; however, these areas that provide ample resources may also impose higher mortality rates. For example, birds may be attracted to lush roadside vegetation for breeding, nesting, or foraging, but they may be at great risk of mortality due to being hit by vehicles. Areas of extensive OHV use have also been documented as exhibiting decreased species density and diversity (Ouren et. al 2007).

The following special status bird species have known suitable habitat within the project area and could potentially be affect by the proposed action or alternatives: Bendire's thrasher, burrowing owl, gray vireo, least bell's vireo, LeConte's thrasher, Swainson's hawk, and golden eagle. The

primary potential OHV threat to special-status birds in the project area would likely be disturbance (including noise), specifically disturbance to nest sites and disturbance to foraging behavior.

Potential OHV-related threats to burrowing owls include direct mortality from vehicle collisions (this species has a high tolerance for vehicle disturbance, but this causes high numbers of collisions), habitat degradation, and disturbance by vehicles at nest sites. Similarly, LeConte's thrashers can be sensitive to vehicle traffic during the nesting season, especially off road travel in washes. Golden eagles and/or other raptors could experience potential impacts from OHV use through disturbance to foraging behavior, loss of prey species (e.g., lizards, small mammals), and disturbance of nest sites. Off-road vehicle disturbance to prairie falcon nest sites has been documented, as well as declines in prey species in the Mojave Desert due to OHV effects (Berry 1980). A recent study of OHV recreation volume effects on breeding raptors and their habitat (Spaul and Heath 2014) concluded that the majority of recreational traffic did not illicit a discernible response from nearby eagles, unless prolonged activity occurred near the bird or nest. Additionally, a study of changes in golden eagle reproduction related to increased OHV activity in Idaho between 1999 and 2009 showed a correlation between significant increases in OHV use and decreases in occupancy and success of territories in close proximity to recreational trails and parking areas (Steenhof, Brown, and Kochert 2014).

In recent years, BLM offices in other locations have implemented seasonal wildlife closures to protect several bird species, including the golden eagle, during sensitive nesting periods (BLM 2012). Because human disturbance, such as off-road vehicle activity, has the potential to result in nest failure or abandonment, specific routes or trails can be closed during certain months to preserve nesting and roosting habitat. BLM has also implemented seasonal closures of grazing allotments to protect several riparian bird species such as Least Bell's Vireo and Southwestern Willow Flycatchers.

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4. For wildlife, the measures were developed specifically for special-status species, desert tortoise habitat in DWMAs, near active golden eagle nests, in the Mohave Ground Squirrel Core Area, and in wildlife corridors. These measures are described below.

For special-status wildlife resources, potential minimization and mitigation measures include:

- Construct Wildlife Bypass;
- Restrict stopping/parking/camping;
- Add Install barriers;
- Maintain existing barriers;
- Remove Attractants;
- Seasonal use restriction; and

- Determine that no additional minimization and mitigation measure is needed based on site evaluation.

For tortoise habitat in DWMAs, potential minimization and mitigation measures include:

- Install Wildlife Bypass;
- Install Wildlife Safety Zone signs;
- Modify access to a less impacting designation;
- Seasonal Use Restriction;
- Install access type restrictor;
- Re-align route to avoid designated area;
- Restrict stopping/parking/camping;
- Add parking/camping area;
- Install barriers and maintain or upgrade existing barriers;
- Remove Attractants;
- Construct or Install Educational information such as signs;
- Install fencing;
- Narrow route;
- Maintain berms so that they do not adversely impact the movement of desert tortoise;
- Monitor the route for signs of increasing impacts to a sensitive resource, and
- Determination that no additional minimization and mitigation measure is needed based on site evaluation.

For golden eagle nests, potential minimization and mitigation measures include:

- Seasonal closure during nesting season;
- Install access type restrictor;
- Re-align route to avoid environmentally sensitive area;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Restrict stopping/parking/camping;
- Install barriers;
- Remove Attractants;
- Construct or Install Educational information such as signs;
- Monitor the route for signs of increasing impacts to a sensitive resource, and
- Determine that no additional minimization and mitigation measure is needed based on site evaluation.

For the Mohave Ground Squirrel Core Area, potential minimization and mitigation measures include:

- Construct Wildlife Bypass;
- Install Wildlife Safety Zone signs;
- Modify access to a less impacting designation;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Install access type restrictor;
- Re-align route to avoid designated area;
- Restrict stopping/parking/camping;
- Add parking/camping area;
- Install barriers and maintain or upgrade existing barriers;
- Remove Attractants;
- Construct or Install Educational information such as signs;
- Install fencing;
- Narrow route;
- Monitor the route for signs of increasing impacts to a sensitive resource, and
- Determine that no additional minimization and mitigation measure is needed based on site evaluation.

For wildlife corridors, potential minimization and mitigation measures include:

- Construct Wildlife Bypass;
- Install Wildlife Safety Zone signs;
- Modify access to a less impacting designation;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Install access type restrictor;
- Re-align route to avoid designated area;
- Restrict stopping/parking/camping;
- Add parking/camping area;
- Install barriers and maintain or upgrade existing barriers;
- Remove Attractants;
- Construct or Install Educational information such as signs;
- Install fencing;
- Narrow route;

- Maintain berms so that they do not adversely impact the movement of desert tortoise;
- Monitor the route for signs of increasing impacts to a sensitive resource; and
- Determine that no additional minimization and mitigation measure is needed based on area evaluation.

Residual Impacts After Implementation of Mitigation Measures

Residual effects to wildlife would continue after application of mitigation measures, both with continued motorized vehicle use, and following closure of routes. Although impacts would be reduced from those that would have existed without mitigation measures, motorized vehicles could still impact special-status wildlife, wildlife habitat, and wildlife corridors. Impacts would continue to occur due to direct strikes by motorized vehicles, motorized vehicle noise, and disturbance of soil and vegetation in wildlife habitat and corridors. Closure of routes in those areas may not result in recovery in the short-term, unless active rehabilitation efforts are taken.

4.4.2.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to wildlife. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider wildlife and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit wildlife resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson

Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. Changes to motorized vehicle use in the locations specified in these decisions under the action alternatives do have the potential to impact wildlife in those locations. Impacts may still occur to desert tortoise, Mohave ground squirrel, burrowing owls, pallid bats, and small lizards and animals as a result of motor vehicle use in these areas on remaining available routes, as summarized in section 4.4.1.2 Impacts Common to All Alternatives, despite adopted measures, including fencing, oversight, and measures to increase public information prior to use of routes in the Rand-Fremont area.

Forage that was allocated to livestock grazing within grazing allotments that will be reallocated to wildlife resources under the No Action Alternative is presented in Table 4.4-16.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that the use of motorized vehicles on the designated network can have adverse impacts on wildlife habitat, and on special status wildlife species. Like the analysis of impacts to vegetation, these impacts would be focused in areas in close proximity to the motorized routes. The mileage of routes associated with wildlife corridors and special status wildlife areas under the No Action Alternative is presented in Tables 4.4-14 and 4.4-15, respectively.

Table 4.4-14. Alternative 1 - Acreage and Mileage of Routes Within Wildlife Corridors

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Routes Within Wildlife Corridor	2219.5	29.8	3271.7	75185	0	0.3	3683.6

Table 4.4-15. Alternative 1 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Wildlife Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Bendire's Thrasher	10.2	0	14.8	404	0	0	70.1
Bighorn Sheep	81.3	0.1	118.4	2660	0	0	142.3
Burrowing Owl	4.3	0.1	6.4	52	0	0	4.6

Table 4.4-15. Alternative 1 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Wildlife Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Desert Tortoise (Total within Critical Habitat)	2118.2	43.8	3144.7	21460	0	0	2665.4
Desert Tortoise (Fremont-Kramer Designated Critical Habitat Unit only)	916.3	5.7	1341.1	7825	0	0	1231.1
Desert Tortoise (Ord-Rodman Designated Critical Habitat Unit only)	281.1	18.8	436.2	2695	0	0	520
Desert Tortoise (Superior-Cronese Designated Critical Habitat Unit only)	116.2	15.3	191.3	6947	0	0	64.3
Desert Tortoise (Pinto Mountains Designated Critical Habitat Unit only)	818.1	4	1195.8	1340	0	0	686
Fringed Myotis	0.1	0	0.1	5	0	0	0.1
Gray Vireo	0	0	0	0	0	0	0.7
Least Bell's Vireo	0	0	0	19	0	0	2.4
LeConte's Thrasher	9	0	13.1	598	0	0	18
Mojave Fringe-toed Lizard[1]	19.7	0	28.7	569	0	0	28.3

Table 4.4-15. Alternative 1 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Wildlife Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Northern Sagebrush Lizard	0	0	0	14	0	0	0.1
Pallid Bat	5.4	0	7.9	240	0	0	23.3
Spotted Bat	0	0	0	0	0	0	0.4
Swainson's Hawk	0	0	0	19	0	0	0.7
Western Mastiff Bat	2.7	0	3.9	147	0	0	3.3
Golden Eagle 0-.5 Miles of active nests	20.8	2.3	33.6	901	0	0	79.1
Mohave Ground Squirrel	850.6	0	1237.2	21043	0	0	2026.7

1 Mojave fringe-toed lizard is at risk from any route within its sand habitat between April 1 and September 30.

Table 4.4-16. Alternative 1(No Action Alternative) – AUMs by Acres of Grazing Allotments Re-allocated From Grazing to Wildlife Resources

Allotment	Re-Allocation of AUMs by Acres Within DWMA and CHU	Re- Allocation of AUMs by Acres Outside DWMA and CHU
Ord Mountain (Ord-Rodman DWMA/CHU)	0	0
Cantil Common (Fremont-Kramer DWMA/CHU)	0	0
Shadow Mountain (Fremont-Kramer DWMA/CHU)	0	0
Harper Lake (Superior-Cronese DWMA/CHU)	0	0
Cronese Lake (Superior-Cronese DWMA/CHU)	0	0
Buckhorn Canyon (Fremont-Kramer DWMA/CHU)	0	0
Johnson Valley	0	0
Cady Mountain	0	0
Double Mountain	0	0
Oak Creek	0	0
Total Acres Re-Allocated	**0**	**0**

Alternative 1 Minimization and Mitigation Measures

Table 2.3-1 describes the network-wide minimization and mitigation measures that are currently specified in the CDCA Plan, WEMO Plan, and/or the Court's Remedy Order, and which are therefore applicable under Alternative 1, the No Action Alternative. Whether they were applied during the route designation process or are mitigation measures, these measures act to reduce impacts to wildlife habitat and individuals. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 300 feet outside of DWMAs would reduce the potential for direct vehicle strikes to wildlife, and for degradation of wildlife habitat in areas adjacent to routes, as compared to pre-2006 conditions before these limitations were enacted. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific wildlife impacts are considered before authorizing new motorized routes.

4.4.2.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to wildlife. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider wildlife and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit wildlife by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to wildlife of each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to wildlife. In the case of routes established to provide access to authorized

uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the plan amendment decisions being considered would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include changes to C routes, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, and changes in allowable stopping, parking, and camping distances. The wildlife impacts of these decisions under Alternative 2 are as follows:

PA VII: All proposed C routes are located outside of the protected habitat for any of the special status wildlife species being considered with the exception of the Mohave ground squirrel. Under this alternative approximately 3 miles of routes fall within MGS core population areas. Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. With the implementation of a seasonal closure the potential for a direct take of the species should be very low.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989, and so deletion of this event in the plan amendment would be beneficial to the tortoise. Since the event has not been run in this corridor 1989, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any effect on wildlife by increasing the recreational use of routes in other areas.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. In general, the lakebeds do not support wildlife, and are not associated with wildlife corridors or special-status wildlife. Since Koehn lakebed would be closed, and there would be no change to the status of the other three lakebeds, there would not be a direct effect to wildlife. Because Koehn lakebed is currently receiving relatively light use, the amount of displaced use to other routes would be low. Therefore, this plan amendment decision is not expected to have an indirect, adverse impact on wildlife by increasing the recreational use of routes in other areas.

PA IX: There would be no change to access to the Rand Mountains-Fremont Valley Management Area under Alternative 2. Impacts may still occur to desert tortoise, Mohave ground squirrel, burrowing owls, pallid bats, and small lizards and animals as a result of motor vehicle use in the Rand-Fremont area, despite fencing and measures to increase public information prior to use of routes in the Rand-Fremont area.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative would reduce the potential for motorized vehicle use to impact wildlife in those areas. The effect of these actions would be a net beneficial impact on wildlife resources.

PA XI: Discontinuing livestock grazing in DWMAs and re-allocate all of the Animal Unit Months (AUM, an expression of livestock stocking commitment based on forage) from livestock forage to wildlife use and ecosystem functions would enhance habitat of special-status species, including the listed desert tortoise. This includes portions of the Ord Mountain, Cantil Common, and Shadow Mountain Allotments, a small portion of the Johnson Valley Allotment and the entire Harper Lake and Cronese Lake Allotments.

Alternative 2 Route Designation

Section 4.4.2.2 described the general impacts to wildlife that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on wildlife habitat, and on special status wildlife species. Like the analysis of impacts to vegetation, these impacts would be focused in areas in close proximity to the motorized routes. The mileage of routes associated with wildlife corridors and special status wildlife areas under Alternative 2 is presented in Tables 4.4-17 and 4.4-18, respectively. Forage that was allocated to livestock grazing within grazing allotments that will be reallocated to wildlife resources under Alternative 2 is presented in Table 4.4-19.

Table 4.4-17. Alternative 2 - Acreage and Mileage of Routes Within Wildlife Corridors

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Routes Within Wildlife Corridor	1592.6	160.8	2544.6	19906	10	17.1	4173.1

Table 4.4-18. Alternative 2 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Wildlife Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Bendire's Thrasher	6.2	2.6	12.8	103	0	0.2	64
Bighorn Sheep	57.1	0.3	83.5	424	0	0.5	157.6
Burrowing Owl	0.2	0	0.3	13.0	0	0	2.5

Table 4.4-18. Alternative 2 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Wildlife Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Desert Tortoise (Total within Critical Habitat)	1698.9	48.6	2396.4	18916	0	1.3	3161.5
Desert Tortoise (Fremont-Kramer Designated Critical Habitat Unit only)	623.9	36.4	960.4	7465	0	1.3	1496.1
Desert Tortoise (Ord-Rodman Designated Critical Habitat Unit only)	255.1	6.1	380	2692	0	0	553.3
Desert Tortoise (Superior-Cronese Designated Critical Habitat Unit only)	615.0	6	903	6950	0	0	1075.1
Desert Tortoise (Pinto Mountains Designated Critical Habitat Unit only)	121.2	0.1	176.4	1340	0	0	75.5
Fringed Myotis	0.1	0	0.1	1	0	0	0.1
Gray Vireo	0	0	0	0	0	0	0.7
Least Bell's Vireo	0.4	0	0.6	5	0	0	0.3
LeConte's Thrasher	7.1	0.2	10.6	96.0	0	0	19.5
Mojave Fringe-toed Lizard[1]	9.5	0.2	14.1	59.0	0	0.3	38
Northern Sagebrush Lizard	0	0	0	0	0	0	0.1
Pallid Bat	3.3	0.3	5.2	10	0	0	25.1
Spotted Bat	0	0	0	0	0	0	0.3
Swainson's Hawk	0.2	0	0.3	2	0	0	0.5
Western Mastiff Bat	2	0	2.9	24	0	0	4
Golden Eagle 0-.5 Miles of active nests	16.3	5.9	32.3	234	0	0	79.9
Mohave Ground Squirrel	415.9	0	604.9	4824	14.2	0	2446.5

1 - Mojave fringe-toed lizard is at risk from any route within its sand habitat between April 1 and September 30.

Table 4.4-19. Alternative 2 – AUMs by Acres of Grazing Allotments Re-allocated From Grazing to Wildlife Resources as Compared to the No Action Alternative

Allotment	Re-Allocation of AUMs by Acres Within DWMA and CHU	Re- Allocation of AUMs by Acres Outside DWMA and CHU
Ord Mountain (Ord-Rodman DWMA/CHU)	117,290	0
Cantil Common (Fremont-Kramer DWMA/CHU)	6,726	0
Shadow Mountain (Fremont-Kramer DWMA/CHU)	601	0
Harper Lake (Superior-Cronese DWMA/CHU)	15,936	2,182
Cronese Lake (Superior-Cronese DWMA/CHU)	25,992	22,517
Buckhorn Canyon (Fremont-Kramer DWMA/CHU)	0	7,634
Total Acres Re-Allocated	**166,545**	**32,333**

Alternative 2 Minimization and Mitigation Measures

Table 2.3-5 describes the network-wide minimization and mitigation measures that would be applied under Alternative 2. Many of these measures would act to reduce impacts to wildlife habitat and individuals. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines would reduce the potential for direct vehicle strikes to wildlife, and for degradation of wildlife habitat in areas adjacent to routes. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific wildlife impacts are considered before authorizing new motorized routes.

4.4.2.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on wildlife is the same as discussed for Alternative 2.

Five of the plan amendment decisions being considered would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include changes to C routes, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, and changes in allowable stopping, parking, and camping distances. The wildlife impacts of these decisions under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler

Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. These proposed C routes are outside of the protected habitat for any of the special status wildlife species being considered with the exception of the Mohave ground squirrel. Under this alternative approximately 28 miles of routes fall within MGS core population areas. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known the wildlife impacts of those routes would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. In general, the lakebeds do not support wildlife, and are not associated with wildlife corridors or special-status wildlife. Therefore, this decision would not have any direct effect on wildlife resources on the lakebeds.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The desert tortoise, pallid bat, Mohave ground squirrel, and burrowing owl occur within the Rand Mountains-Fremont Valley Management Area. Not requiring a visitor to complete an educational orientation program before visiting an area may result in an adverse impact if the visitor is unaware of the special resources within the particular area. These impacts maybe overcome through other educational mediums and materials such as kiosks and brochures.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing wildlife impacts in those areas. This decision would also reduce the potential for motorized vehicle use to impact wildlife in those areas. The effect of these actions would be a net beneficial impact on wildlife resources located adjacent to the routes that are designated as available for motorized use outside of DWMAs.

PA XI: Alternative 3 would discontinue livestock grazing on currently inactive allotments, which include Buckhorn Canyon, Harper Lake, Cronese Lake, Cady Mountain, Johnson Valley, Double Mountain and Oak Creek Allotments. Livestock grazing would continue under the terms and conditions contained in the Final Grazing Decisions issued for active grazing allotment within the West Mojave Planning Area. This would include the continuation of livestock grazing on approximately 117,290 acres of the Ord Mountain Allotment within the Ord-Rodman DWMA, and the continuation of ephemeral sheep grazing on approximately 6,196 acres of the Cantil

Common Allotment and 596 acres of the Shadow Mountain Allotment within the Fremont-Kramer DWMA.

Alternative 3 Route Designation

Section 4.4.2.2 described the general impacts to wildlife that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on wildlife habitat, and on special status wildlife species. Like the analysis of impacts to vegetation, these impacts would be focused in areas in close proximity to the motorized routes. The mileage of routes associated with wildlife corridors and special status wildlife areas under Alternative 3 is presented in Tables 4.4-20 and 4.4-21, respectively. Forage that was allocated to livestock grazing within grazing allotments that will be reallocated to wildlife resources under Alternative 3 is presented in Table 4.4-22.

Table 4.4-20. Alternative 3 - Acreage and Mileage of Routes Within Wildlife Corridors

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Routes Within Wildlife Corridor	4064.1	75.4	6021	82720	41.3	20	1788.4

Table 4.4-21. Alternative 3 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Wildlife Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Bendire's Thrasher	47.4	3.6	74.2	1079	0	0.2	23.2
Bighorn Sheep	110.5	3.1	165.2	691	0.9	2.8	99
Burrowing Owl	1.3	0	1.9	32	0	0	2.2
Desert Tortoise (Total within Critical Habitat)	2762.5	109.8	4178	32005	6.1	0	2005.4
Desert Tortoise (Fremont-Kramer Designated Critical Habitat Unit only)	1189.3	8.4	1742	13157	5.6	0	954.4

Table 4.4-21. Alternative 3 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Wildlife Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Desert Tortoise (Ord-Rodman Designated Critical Habitat Unit only)	381.1	36	606.7	4440	0	0	397.1
Desert Tortoise (Superior-Cronese Designated Critical Habitat Unit only)	993.2	61.7	1534.4	11700	0.5	0	640.5
Desert Tortoise (Pinto Mountains Designated Critical Habitat Unit only)	188.2	3.8	279.3	2112	0	0	4.8
Fringed Myotis	0.1	0	0.1	2	0	0	0.1
Gray Vireo	0	0	0	0	0	0	0.7
Least Bell's Vireo	0.5	0	0.7	11	0.2	0	0
LeConte's Thrasher	15.6	0.1	22.8	338	0	0	11.6
Mojave Fringe-toed Lizard[1]	30	1.1	45.2	574	0	0.3	16.7
Northern Sagebrush Lizard	0	0	0	0	0	0	0
Pallid Bat	16.5	6.4	33.3	69	0	0	6.1
Spotted Bat	0.3	0	0.4	6	0	0	0
Swainson's Hawk	0.7	0	1	14	0	0	0
Western Mastiff Bat	6	0	8.7	140	0	0	0

Table 4.4-21. Alternative 3 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Wildlife Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Golden Eagle 0-.5 Miles of active nests	57	3.3	87.7	986	0	0	43.6
Mohave Ground Squirrel	1721	0	2503	45515	31.7	0	1160.8

Mojave fringe-toed lizard is at risk from any route within its sand habitat between April 1 and September 30.

Table 4.4-22. Alternative 3 – AUMs by Acres of Grazing Allotments Re-allocated From Grazing to Wildlife Resources as Compared to the No Action Alternative

Allotment	Re-Allocation of AUMs by Acres Within DWMA and CHU	Re- Allocation of AUMs by Acres Outside DWMA and CHU
Ord Mountain (Ord-Rodman DWMA)	0	0
Cantil Common (Fremont-Kramer DWMA)	0	0
Shadow Mountain (Fremont-Kramer DWMA)	0	0
Harper Lake (Superior-Cronese DWMA)	0	0
Cronese Lake (Superior-Cronese DWMA)	0	0
Buckhorn Canyon (Fremont-Kramer DWMA)	0	0
Total Acres Re-Allocated	0	0

Alternative 3 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 3. Many of these measures would act to reduce impacts to wildlife habitat and individuals. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce the potential for direct vehicle strikes to wildlife, and for degradation of wildlife habitat in areas adjacent to routes. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific wildlife impacts are considered before authorizing new motorized routes.

4.4.2.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on wildlife is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on wildlife. However, this decision would make it easier for BLM to consider wildlife impacts in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on wildlife.

Five of the plan amendment decisions being considered would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include changes to C routes, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, and changes in allowable stopping, parking, and camping distances. The wildlife impacts of these decisions under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. All proposed C routes are outside of the protected habitat for any of the Special Status Wildlife species being considered with the exception of the Mohave Ground Squirrel. Under this alternative approximately 23 miles of routes fall within MGS core population areas. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2. The wildlife impacts at Cuddeback, Coyote, and Chisholm Trail Lake lakebeds would be the same as those described for Alternative 3, which would also designate these lakebeds as open to motorized vehicles. In general, the lakebeds do not support wildlife, and are not associated with

wildlife corridors or special-status wildlife. Therefore, this decision would not have any direct effect on wildlife resources on the lakebeds.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing wildlife impacts in those areas. This decision would also reduce the potential for motorized vehicle use to impact wildlife in those areas. The effect of these actions would be a net beneficial impact on wildlife resources located adjacent to the routes that are designated as available for motorized use outside of DWMAs.

PA XI: Alternative 4 would discontinue livestock grazing in DWMAs and CHUs on allotments that are currently inactive and vacant, or that become inactive and vacant in the future, and reallocate all of the 1,100 Animal Unit Months from livestock forage to wildlife use and ecosystem functions. Public land totaling 42,420 acres would not be available for livestock grazing for a small portion of the Johnson Valley Allotment and two grazing allotments, Cronese Lake, and Harper Lake Allotments, in their entirety, consistent with 43 CFR 4130.2 (a). These allotments would be unavailable for livestock grazing. This reduction in grazing would have a direct, beneficial impact on wildlife in those areas.

Alternative 4 Route Designation

Section 4.4.2.2 described the general impacts to wildlife that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on wildlife habitat, and on special status wildlife species. Like the analysis of impacts to vegetation, these impacts would be focused in areas in close proximity to the motorized routes. The mileage of routes associated with wildlife corridors and special status wildlife areas under Alternative 4 is presented in Tables 4.4-23 and 4.4-24, respectively. Forage that was allocated to livestock grazing within grazing allotments that will be reallocated to wildlife resources under Alternative 4 is presented in Table 4.4-25.

Table 4.4-23. Alternative 4 - Acreage and Mileage of Routes Within Wildlife Corridors

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Routes Within Wildlife Corridor	2341.3	68	3504.4	12136	30.9	16.1	3479.7

Table 4.4-24. Alternative 4 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Wildlife Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Bendire's Thrasher	17.8	0	25.9	353	0	0	57.9
Bighorn Sheep	72.3	6.3	114.3	1166	0	1.6	135.8
Burrowing Owl	1.0	0.1	1.6	27	0	0	2.4
Desert Tortoise (Total within Critical Habitat)	2224.6	85.8	3360.6	25078	0	5.8	2517.4
Desert Tortoise (Fremont-Kramer Designated Critical Habitat Unit only)	907.5	24	1355	10672	0	5.9	1213
Desert Tortoise (Ord-Rodman Designated Critical Habitat Unit only)	312.4	17.6	480	1580	0	0	489.9
Desert Tortoise (Superior-Cronese Designated Critical Habitat Unit only)	891.1	39.4	1354	10487	0	0	767.5
Desert Tortoise (Pinto Mountains Designated Critical Habitat Unit only)	127.5	4.9	192.6	1469	0	0	64.3
Fringed Myotis	0.1	0	0.1	2	0	0	0.1
Gray Vireo	0	0	0	0	0	0	0.7
Least Bell's Vireo	0	0	0	0	0	0	2.4
LeConte's Thrasher	9	0	13.1	217	0	0	18
Mojave Fringe-toed Lizard[1]	20.3	0	29.5	426	0	0.3	27.4
Northern Sagebrush Lizard	0	0	0	0	0	0	0.1
Pallid Bat	4.9	0	7.1	95	0	0	23.9
Spotted Bat	0	0	0	0	0	0	0.4
Swainson's Hawk	0	0	0	1	0	0	0.6
Western Mastiff Bat	4.7	0	6.8	110	0	0	1.3

Table 4.4-24. Alternative 4 - Acreage and Mileage of Routes Within Range or Other Protected Habitat for Special Status Wildlife Species

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Golden Eagle 0-.5 Miles of active nest	24.5	2.3	39	486	0	0	75.4
Mohave Ground Squirrel	896	0	1303.3	16267	3.2	0	1975.5

1 - Mojave fringe-toed lizard is at risk from any route within its sand habitat between April 1 and September 30

Table 4.4-25. Alternative 4 – AUMs of Acres of Grazing Allotments Re-allocated From Grazing to Wildlife Resources as Compared to the No Action Alternative

Allotment	Re-Allocation of AUMs by Acres Within DWMA and CHU	Re- Allocation of AUMs by Acres Outside DWMA and CHU
Ord Mountain (Ord-Rodman DWMA)	0	0
Cantil Common (Fremont-Kramer DWMA)	0	0
Shadow Mountain (Fremont-Kramer DWMA)	0	0
Harper Lake (Superior-Cronese DWMA)	15,936	2,182
Cronese Lake (Superior-Cronese DWMA)	25,992	22,517
Buckhorn Canyon (Fremont-Kramer DWMA)	0	0
Johnson Valley (Ord-Rodman DWMA)	601	0
Total Acres Re-Allocated	45,529	24,699

Alternative 4 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 4. Many of these measures would act to reduce impacts to wildlife habitat and individuals. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce the potential for direct vehicle strikes to wildlife, and for degradation of wildlife habitat in areas adjacent to routes. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific wildlife impacts are considered before authorizing new motorized routes.

4.5 Socioeconomics and Environmental Justice

4.5.1 Introduction

Affected Environment Summary

Section 3.5 describes the socioeconomic conditions in the WEMO Planning area. The planning area is a substantial geographic region covering more than 3.3 million acres, encompassing portions of five counties, and including over 733,000 residents. Although the population base is significant, it is diverse and widely dispersed in scattered concentrations ranging from as few as 30,000 residents in such areas as Barstow and Ridgecrest to more than 300,000 residents in the Palmdale-Lancaster area of Los Angeles County and also the Victor Valley area of San Bernardino County.

Although it encompasses substantial rural areas, the WEMO planning area is situated along the periphery of the huge Los Angeles metropolitan area, and the southern portion of the Central Valley population and employment base. Within the planning area, industries such as aerospace, mining, military, and government operations have long provided local employment to area residents. However, overall economic growth throughout the West Mojave is increasingly influenced and driven by growth trends associated with the larger economic region of Southern California. The regional study area for socioeconomic analysis includes Inyo, Kern, Los Angeles, and San Bernardino counties. Localized study areas include incorporated cities and communities within the Planning Area with populations of 10,000 or greater. This population threshold is used to define the local study area from a programmatic perspective.

The transportation network on public lands is needed to provide access to residences, as well as to authorized users of public lands for commercial activities such as grazing, mining, energy production, and communications. Therefore, the connectivity of the network can affect socioeconomic activity by facilitating or limiting access for these activities. The transportation network also affects the level, location, and types of recreational activities occurring in the planning area. The network provides access to areas where recreational users can experience the solitude of the desert, and areas which retain their rural character. Whether the network is the focus of the recreational experience (i.e., for OHV touring), or is simply a means to access recreation areas, the configuration of motorized and closed routes can affect localized socioeconomic activity related to recreation.

This analysis cannot evaluate all the site-specific impacts to environmental justice issues associated with travel management and new designations for motorized recreation. Instead, the analysis uses best readily available information to characterize high asymmetric economic and social burdens on low-income people.

Methodology

The 2005 WEMO EIS analyzed the impacts of the proposed action on socioeconomics in the planning area, including the effects of OHV use on recreation levels and the resulting socioeconomic impacts. It did not specifically analyze impacts associated with the 5,098 mile route network to environmental justice populations. The Court's Summary Judgment and Remedy Order did not specifically reach conclusions, or provide direction, regarding the sufficiency of the socioeconomic analysis, or the need for analysis of environmental justice impacts.

For this SEIS for the WMRNP, BLM performed the following:

- Used 2010 census data to update the socioeconomic analysis in Section 3.5, and to identify minority and low income populations for the environmental justice analysis.
- Conducted route evaluation and quantified the miles of motorized routes that could potentially impact minority and low income populations across four alternative route networks, ranging from 4,293 to 10,428 miles in size.
- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, and changes in conditions within the planning area. This additional information is incorporated into the evaluation in Section 4.5.2 below.

4.5.2 Impacts Common to All Alternatives

This chapter provides an analysis of potential socioeconomic and environmental justice impacts associated with comprehensive travel management for motorized vehicular access (MVA) and off-highway motor vehicle recreation within the WEMO Planning Area for the alternatives.

As part of the development of the WEMO Plan (BLM 2006), the agency commissioned an analysis of the impact of the Plan on socioeconomic activity (Gobar 2003). In support of this SEIS for the WMRNP, BLM reviewed that report's analysis of the impact of recreation on employment and income in the planning area. Although specific recreational user numbers and dollar values of socioeconomic activity have increased since 2003, the report's general discussion and conclusions regarding the impact of the transportation network on recreation-driven socioeconomic activity are still valid, and are generally common to all alternatives.

The transportation network in the West Mojave Planning area supports socioeconomics by meeting the needs of the resident and visitor population for accessing housing, employment locations, and recreation, as well as supporting the transport of raw materials, food, fuels, and commercial products associated with modern society. The Motorized Vehicle Access (MVA) Element of the CDCA Plan established overarching goals and objectives to support these needs, including providing for constrained motorized vehicle access in a manner that balances the needs of all desert users, private landowners, and other public agencies, and continuing to recognize ways of access and opportunities for exploration and development on public lands, including access to critical mineral resources, potential energy resources, and minerals of local and State importance. The network also supports socioeconomics in providing access to, and a network to be used for, outdoor recreational activities. In meeting these needs to support the resident and visitor populations, the MVA Element also specified that the transportation network was to be designated, to the degree possible, to avoid adverse impacts to desert resources.

The impacts of the WMRNP can be both beneficial and adverse to socioeconomic conditions. Designation of major arterial routes as part of the WMRNP has a beneficial effect in providing access as needed for housing, industry, employment, recreation, and transport of goods within and across the planning area. Conversely, designation of routes as transportation linear disturbances, or closing routes can be adverse by limiting access, or by increasing the time and cost needed for access. These actions can, in turn, have a localized impact on specific commercial operations that support recreation, such as campgrounds, hotels, restaurants, and

stores. This impact would be beneficial in areas where routes remain open, and adverse in areas where routes are closed.

For routes in rural areas, maintenance and designation of motorized routes would support OHV-based recreation and tourism. Recreation and tourism, in turn, create jobs and generate tax revenue, having a beneficial effect on socioeconomic conditions. Sectors most directly influenced by recreation activities include: selected transportation services; retail activities involving the sale of food, provisions, gas, and meals; specialized services such as lodging, vehicle repair, and recreation; and directed government services (rangers and sheriff). Overall, employment identified for each of these sectors is primarily driven by current urbanization throughout the West Mojave, not recreation visitors. Recreational visits are expected to augment identified employment levels, but not necessarily drive a significant share of jobs. As an example, OHV usage throughout the West Mojave is broadly estimated to attract roughly 2 million visitors per year. This level of trip-volume is consistent with annual shopper-trips describing a busy neighborhood shopping center (i.e.: 120,000-square-foot center supporting roughly 200 retail jobs) (Gobar 2003). Most OHV visitors, however, are part of a larger group, which significantly reduces realistic shopper-trip potential associated with OHV recreation, particularly for non-dining retail expenditures. In addition, a substantial portion of OHV trip-related expenditures are made within the hometown location of recreation visitors who primarily drive to the planning area from the Metropolitan Areas of Southern California and the southern portion of the Central Valley. Consequently, although expenditures are not likely to support more than 50 retail sector jobs providing $30,360 in annual income per worker, on average. A greater portion of OHV visitors can be expected to make dining-related expenditures during a given visit. A 60 percent incident rate describing the purchase of a hot or cold meal while within the West Mojave suggests equivalent economic support for roughly 140 restaurant jobs providing an average of $14,960 in annual income per worker, on average (Gobar 2003).

On a combined basis, the above levels of retail support for OHV visitor expenditures represent roughly 190 jobs or about 0.8 percent of food store and dining retail sector jobs that currently exist throughout the West Mojave. The magnitude of effect used to describe the influence of outdoor recreation activity on the retail sector of the West Mojave tends to characterize the level of effect for other employment sectors identified. Reported recreation visitor activity in the planning area generates a notable but supplemental level of economic support for the current employment base of the region. The maximum possible effect of recreation activity on West Mojave employment and income, therefore, is substantially less than the above levels of employment describing those sectors influenced by recreation activity.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. In that analysis, issues that affect the socioeconomic conditions in the planning area were considered as a criterion in determining which routes would remain open and which would be closed under the various alternatives. The primary consideration was in ensuring that route connections are maintained where transportation features cross jurisdictional boundaries. This is the most important criterion in ensuring completeness of the transportation network in providing access between residences, employment locations, schools, businesses, and recreation

opportunities. Maintaining route connections is also critical to facilitating the transport of goods and services into and across the region, and to providing access to construct and maintain infrastructure for power, water, fuel, and sewage needs.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires each federal agency to "Identify and address, as appropriate, disproportionately high and adverse human health or environmental effects on minority populations and low-income populations." Motorized vehicle use of the transportation network would not result in production of toxic or hazardous products.

The WMRNP contains low-income and minority populations that qualify as environmental justice populations. Figure 3.5-1 identifies the locations of census tracts within the planning area containing greater than 50% minority and those tracts with identified low-income populations along with boundaries of TMAs. Environmental impacts associated with different types of motorized recreation that could impact all populations include:

- Vehicular Noise
- Air Quality and Public Health
- Water Quality and Quantity
- Damage to Cultural Resources
- Carbon Emissions and Impacts to Climate Change
- Loss of Recreation Access and Opportunity
- Loss of Soil and Vegetation / Scenic and Landscape Values

These impacts are discussed in the relevant sections. However, should the impacts of these burdens fall disproportionately on people in US Census tracts identified here, an environmental justice issue may arise.

Impacts to these populations are both beneficial and adverse. Route designations can be beneficial by augmenting both recreational and employment opportunities for areas that contain environmental justice populations. Recreational tourism activity would promote employment opportunities in sectors such as transportation services and retail. Retail services typically involve the sale of food and provisions that facilitate outdoor recreation. Additionally, increased employment would generate income and increased tax revenue within the planning area, potentially benefiting minority communities. Low cost local recreational options would also be a beneficial impact to environmental justice populations. The current route network meets demand of localities inside and outside of the planning area, including the urban areas of Los Angeles and Las Vegas, thus benefiting environmental justice populations that may reside out of the planning area. Adverse impacts would result from noise emissions and pollution associated with OHV use near environmental justice populations.

Local socioeconomic conditions, including employment rates, addition or loss of industries, military installations, and even single employers can impact the local or regional economies of San Bernardino, Kern, Los Angeles, and Inyo Counties. Grazing is anticipated to continue at or below current stocking rates. These stocking levels are at their lowest point when compared to historic levels, and if the WEMO Plan is fully implemented, are expected to continue to

decrease. Therefore grazing continues to have a nominal influence on local economies in the area.

Resource-Specific Minimization and Mitigation Measures

Because no adverse impacts to socioeconomics were identified, no resource-specific minimization and mitigation measures were developed for socioeconomic effects to include livestock grazing.

Residual Impacts After Implementation of Mitigation Measures

Because no adverse impacts to socioeconomics were identified, there would be no residual impacts after mitigation measures were implemented.

4.5.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to socioeconomics or environmental justice. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider socioeconomics, environmental justice, and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit socioeconomics and environmental justice by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping,

parking, and camping distances, and changes to the livestock grazing program. However, because there are currently no known impacts to socioeconomics or environmental justice associated with these areas and activities, there would be no impacts to socioeconomic or environmental justice conditions as a result of the No Action alternative.

Local socioeconomic conditions, including employment rates, addition or loss of industries, military installations, and even single employers can impact the local or regional economies of San Bernardino, Kern, Los Angeles, and Inyo Counties. Grazing is anticipated to continue at or below current stocking rates. These stocking levels are at their lowest point when compared to historic levels, and if the WEMO Plan is fully implemented, are expected to continue to decrease. Therefore grazing continues to have a nominal influence on local economies in the area.

Alternative 1 Route Designation

In general, motorized access has a beneficial impact on socioeconomics by supporting the larger regional transportation network, facilitating local access for businesses, commercial users and residents, and providing recreation access and opportunities. However, as discussed in Section 4.1.3, the analysis in this Chapter is based on a general assumption that the overall size of the route network is unrelated to the total miles traveled on the network within the planning area. Socioeconomic activity associated with recreation would not be substantively affected by the overall size of the network and, therefore, overall socioeconomic impacts in the planning area would not vary among route network alternatives. Localized effects to these resources would occur depending on specific locations of opened and closed routes, but the regional scale of recreation and associated socioeconomic activity would not change.

Environmental justice minority and low-income populations are located within the WEMO planning area. Environmental justice low-income and minority populations are portrayed in Figure 3.5-1. Additionally, Table 4.5-1 details all of the census tracts within the project area as well as associated route mileage by census tract. As noted in Table 4.5-1, many tracts containing environmental justice populations are not transected by the BLM route network. Of the 55 census tracts within the WEMO planning area that are transected by the route network, 20 census tracts, or 36 percent of the census tracts that are transected by the route network, contain environmental justice populations. The limited number of census tracts that contain environmental justice populations and are transected by the route network, indicate that environmental justice populations would not bear a disproportionally high level of adverse impacts.

Table 4.5-1. Alternative 1 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Mechanized	Closed	Grand Total
Inyo	8*	404.2	0	553.0	957.2
Kern	52.01*	109.6	0	318.1	427.6
	52.03*[1]	161.4	0	754.7	916.1
	53[1]	0	0	0.3	0.3
	54.01	0	0	0	0

Table 4.5-1. Alternative 1 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Mechanized	Closed	Grand Total
Kern (continued)	54.02	0	0	0.4	0.4
	54.03	0	0	0	0
	54.04	0	0	0.0	0.0
	55.01	341.9	0	862.9	1,204.8
	55.06	0	0	19.9	19.9
	55.07[1]	0	0	0	0
	55.08[1]	0	0	21.9	21.9
	561	0	0	0	0
	57	0	0	1.2	1.2
	58.01	0	0	0	0
	58.02[1]	0	0	1.3	1.3
	591	0	0	0	0
	60.04*	58.2	0.3	172.3	230.9
	60.07*	4.5	3.0	197.9	205.4
	651	404.5	0	1,120.2	1,524.7
Los Angeles	9001.02[1]	0	0	38.0	38.0
	9001.03[1]	0	0	0	0
	9001.04[1]	0	0	0	0
	9002.01	0	0	1.2	1.2
	9003	0	0	0	0
	9005.01[1]	0	0	0	0
	9005.04	0	0	0	0
	9005.05[1]	0	0	0	0
	9005.06	0	0	0	0
	9005.07[1]	0	0	0	0
	9005.08[1]	0	0	0	0
	9006.02[1]	0	0	0	0
	9006.05[1]	0	0	0	0
	9006.06[1]	0	0	0	0
	9006.07[1,2]	0	0	0	0
	9006.08[1]	0	0	0	0
	9006.09[1]	0	0	0	0
	9007.01[1]	0	0	0	0
	9007.03[1]	0	0	0	0
	9007.04[1]	0	0	0	0
	9007.05	0	0	0	0
	9008.03[2]	0	0	0	0
	9008.04[1]	0	0	0	0
	9008.05	0	0	0	0
	9008.06[1,2]	0	0	0	0
	9009	0	0	0	0

Table 4.5-1. Alternative 1 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Mechanized	Closed	Grand Total
Los Angeles (continued)	9010.03[2]	0	0	0	0
	9010.04	0	0	0	0
	9010.07	0	0	0	0
	9010.08	0	0	0	0
	9010.09	0	0	0	0
	9010.10[1]	0	0	0	0
	9010.11	0	0	0	0
	9011.01	0	0	0	0
	9011.02	0	0	0	0
	9012.05	0	0	0	0
	9012.09*	0	0	0.5	0.5
	9012.10	0	0	0.0	0.0
	9012.13	0	0	0	0
	9100.01[2]	0	0	0.3	0.3
	9100.02	0	0	0.5	0.5
	9101.01[1,2]	0	0	0	0
	9102.01[1,2]	0	0	0	0
	9102.02	0	0	0	0
	9102.05	0	0	0	0
	9102.06	0	0	0	0
	9102.07	0	0	0	0
	9102.08	0	0	0	0
	9102.09	0	0	0.1	0.1
	9102.10	0	0	0	0
	9103.01	0	0	0	0
	9103.02	0	0	0	0
	9104.01	0	0	0	0
	9104.02[1,2]	0	0	0	0
	9104.03[1,2]	0	0	0	0
	9104.04[1,2]	0	0	0	0
	9105.01[1,2]	0	0	0	0
	9105.02[1,2]	0	0	0	0
	9105.04[1,2]	0	0	0	0
	9105.05[2]	0	0	0	0
	9106.01[1,2]	0	0	0	0
	9106.02[1,2]	0	0	0	0
	9106.03[2]	0	0	0	0
	9106.05[1,2]	0	0	0	0
	9106.06[1,2]	0	0	0	0
	9107.05[2]	0	0	0	0
	9107.06[1,2]	0	0	0	0

Table 4.5-1. Alternative 1 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Mechanized	Closed	Grand Total
Los Angeles (continued)	9107.07[2]	0	0	0	0
	9107.09	0	0	0	0
	9107.11[2]	0	0	0	0
	9107.12[2]	0	0	0	0
	9107.13[2]	0	0	0	0
	9107.14[1,2]	0	0	0	0
	9107.15[2]	0	0	0	0
	9107.16[2]	0	0	0	0
	9108.04*	0	0	0.4	0.4
	9108.05*	0	0	0	0
	9108.12	0	0	0.4	0.4
	9110.01	0	0	2.1	2.1
	9800.03	0	0	0.1	0.1
	9800.04[1,2]	0	0	0	0
Riverside	469*	46.3	0	30.7	77.0
San Bernardino	100.04	0	0	0	0
	100.09	0	0	0	0
	100.10[1]	0	0	0	0
	100.11[1]	0	0	0	0
	100.12	0	0	0	0
	100.13	0	0	0	0
	100.14[1]	0	0	0	0
	100.15[1]	0	0	0	0
	100.16[1]	0	0	0	0
	100.17	0	0	0	0
	100.18[1]	0	0	0	0
	100.19[1]	0	0	0	0
	100.20[1]	0	0	0	0
	100.21[1]	0	0	0	0
	100.22	0	0	0	0
	100.23	0	0	0	0
	100.24[1]	0	0	0	0
	100.25[1]	0	0	0	0
	100.26[1]	0	0	0	0
	103*[1]	867.6	0	776.6	1,644.2
	104.02	0.1	0	0.3	0.4
	104.09*	160.6	0	196.1	356.7
	104.10	0	0	1.1	1.1
	104.11	0	0	0.3	0.3
	104.12	4.6	0	12.5	17.1
	104.13[1]	0	0	0.3	0.3

Table 4.5-1. Alternative 1 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Mechanized	Closed	Grand Total
San Bernardino (continue)	104.15	18.5	0	101.1	119.6
	104.16[1]	3.1	0	12.0	15.1
	104.17[1]	1.0	0	4.0	5.0
	104.19[1]	0.4	0	6.6	7.1
	104.20	0.1	0	0.3	0.4
	104.21[1]	0	0	0	0
	104.22	0	0	0.9	0.9
	104.23[1]	77.7	0	176.9	254.6
	104.24[1]	214.9	6.3	407.3	628.5
	116	1,313.1	0	1,564.5	2,877.7
	117[1]	45.6	0	157.3	203.0
	118	0.2	0	12.7	13.0
	119[1]	127.9	0	171.8	299.6
	120.01	0.1	0	2.9	3.0
	120.02	0.6	0	1.6	2.2
	121.01	6.5	0	26.3	32.8
	121.03	25.3	0	25.8	51.1
	121.04[1]	292.5	0	818.2	1,110.7
	250	0.2	0	1.8	2.0
	89.01[1]	501.9	0	702.6	1,204.5
	91.07	0	0	0	0
	91.08[1]	0	0	0.1	0.1
	91.09	0	0	0	0
	91.10	0	0	0	0
	91.12[1]	0	0	0	0
	91.14	0	0	0	0
	91.16[1]	0	0	0	0
	91.17[1]	30.1	0	108.1	138.2
	91.18	0	0	0	0
	91.19	0	0	0	0
	92.01	0	0	0	0
	93[1]	0	0	0	0
	94[1]	0	0	0	0
	95[1]	0	0	1.5	1.5
	97.07	0	0	0	0
	97.08	80.6	0	140.0	220.6
	97.09[1]	0	0	0	0
	97.10[1]	0	0	0	0
	97.11	0	0	0	0
	97.12[1]	0	0	0	0
	97.13	0	0	0	0

Table 4.5-1. Alternative 1 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Mechanized	Closed	Grand Total
San Bernardino (continue)	97.14[1]	0	0	0	0
	97.15	0	0	0	0
	97.16[1]	0	0	0.8	0.8
	97.17	0	0	0	0
	98[1]	0	0	0	0
	9802[2]	0	0	0	0
	99.04[1]	0	0	0	0
	99.05[1,2]	0	0	0	0
	99.06	0	0	0	0
	99.08[1]	0	0	0	0
	99.10	0	0	0	0
	99.11	0	0	0	0
	99.12[1]	0	0	0	0
	99.13[1]	0	0	0	0
WEMO TOTAL		**5,304**	**10**	**9,531**	**14,845**

*Tracts transect the planning area boundary.
1Tract contains low-income environmental justice population.
2Tract contains minority environmental justice population.

Alternative 1 Minimization and Mitigation Measures

Because no adverse impacts were identified for the No Action Alternative, no alternative-specific minimization and mitigation measures were developed to address socioeconomic impacts to include livestock grazing.

4.5.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to socioeconomics or environmental justice. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider socioeconomics and environmental justice and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and

- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit socioeconomics and environmental justice by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to socioeconomics and environmental justice of each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to socioeconomics or environmental justice. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The socioeconomic and environmental justice impacts of these decisions under Alternative 2 are as follows:

PA VII: It is anticipated that the overall number of SRP applications will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to socioeconomics or environmental justice.

Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. Restricting the use to these months may reduce socioeconomic activity that could have occurred in the local area during other months.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2.

Because an event has not been run since the listing of the desert tortoise as threatened in 1989, no direct adverse effects to socioeconomic activity in that area are expected. In addition, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any effect on socioeconomics or environmental justice in other areas.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. Recreational use of the lakebeds is expected to support socioeconomic activity in the local areas near those lakebeds. Therefore, the closure of Koehn Lakebed may reduce socioeconomic activity in that local area. Because Koehn lakebed is currently receiving relatively light use, this impact is expected to be small. This plan amendment decision would likely have no net beneficial or adverse impact on socioeconomics on a regional basis, but it may result in these impacts occurring on a local basis.

PA IX: There would be no change to access to the Rand Mountains-Fremont Valley Management Area under Alternative 2. Because there are currently no known impacts to socioeconomics or environmental justice associated with the area, there would be no impacts to socioeconomic or environmental justice conditions as a result of Alternative 2.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative would is not expected to have any effect on motorized use of routes for recreation or other authorized uses, and would therefore not have any impact on socioeconomics or environmental justice.

PA XI: Local socioeconomic conditions, including employment rates, addition or loss of industries, military installations, and even single employers can impact the local or regional economies of San Bernardino, Kern, Los Angeles, and Inyo Counties. Grazing is anticipated to continue at or below current stocking rates. These stocking levels are at their lowest point when compared to historic levels, and if the WEMO Plan is fully implemented, are expected to continue to decrease. Therefore grazing continues to have a nominal influence on local economies in the area.

Alternative 2 Route Designation

In general, motorized access has a beneficial impact on socioeconomics by supporting the larger regional transportation network, facilitating local access for businesses, commercial users and residents, and providing recreation access and opportunities. The motorized route network provides increased tourism and low-cost recreational opportunities within the WEMO Planning area. The impacts of use of authorized routes vary widely, and are dependent on the specific characteristics of each authorization and associated access. On a programmatic basis, the socioeconomic impacts of access to authorized uses are generally positive because access facilitates authorized activities that are frequently associated with local jobs. With respect to environmental justice, the impacts from access are minimal since they do not target specific

areas and no open or closed areas are being designated or modified under this project. However, as discussed in Section 4.1.3, the analysis in this Chapter is based on a general assumption that the overall size of the route network is unrelated to the total miles traveled on the network within the planning area. Socioeconomic activity associated with recreation would not be substantively affected by the overall size of the network and, therefore, overall socioeconomic impacts in the planning area would not vary among route network alternatives. Localized effects to these resources would occur depending on specific locations of opened and closed routes, but the regional scale of recreation and associated socioeconomic activity would not change.

Environmental justice minority and low-income populations are located within the WEMO planning area. Environmental justice low-income and minority populations are portrayed in Figure 3.5-1. Additionally, Table 4.5-1 details all of the census tracts within the project area as well as associated route mileage by census tract. As noted in Table 4.5-2, many tracts containing environmental justice populations are not transected by the BLM route network. Of the 58 census tracts within the WEMO planning area that are transected by the route network, 22 census tracts, or 38 percent of the census tracts that are transected by the route network, contain environmental justice populations. This alternative contains the least mileage of open routes and the most mileage of closed routes. A decrease in mileage of open routes would potentially adversely impact environmental justice populations with less job opportunities and access to low-cost recreation, but would expose environmental justice populations to decreased levels of noise and pollution. The limited number of census tracts that contain environmental justice populations and are transected by the route network relative to the total number of census tracts that are transected by the route network, indicate that environmental justice populations would not bear a disproportionally high level of adverse impacts.

Table 4.5-2. Alternative 2 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
Inyo	8*	346.5	0	1.2	595.8	943.5
Kern	52.01*	84.8	1.5	3.5	338.2	428.0
	52.03*[1]	106.4	0	10.5	799.1	915.9
	531	0	0	0	0.5	0.5
	54.01	0	0	0	0	0
	54.02	0	0	0	0.4	0.4
	54.03	0	0	0	0	0
	54.04	0	0	0	0.0	0.0
	55.01	269.0	26.7	0	911.5	1,207.3
	55.06	3.5	0	0	18.8	22.3
	55.07[1]	0	0	0	0	0
	55.08[1]	1.6	0	0	21.3	22.9
	561	0	0	0	0	0
	57	0.1	0	0	1.2	1.3
	58.01	0	0	0	0	0
	58.02[1]	0	0	0	1.3	1.3
	591	0	0	0	0	0
	60.04*	54.6	0	3.3	171.2	229.0

Table 4.5-2. Alternative 2 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
Kern (continued)	60.07*	45.4	0	1.1	161.5	208.0
	651	351.9	0	0	1,173.9	1,525.7
Los Angeles	9001.02[1]	7.4	0	0	31.2	38.6
	9001.03[1]	0	0	0	0	0
	9001.04[1]	0	0	0	0	0
	9002.01	0	0	0	1.2	1.2
	9003	0	0	0	0	0
	9005.01[1]	0	0	0	0	0
	9005.04	0	0	0	0	0
	9005.05[1]	0	0	0	0	0
	9005.06	0	0	0	0	0
	9005.07[1]	0	0	0	0	0
	9005.08[1]	0	0	0	0	0
	9006.02[1]	0	0	0	0	0
	9006.05[1]	0	0	0	0	0
	9006.06[1]	0	0	0	0	0
	9006.07[1,2]	0	0	0	0	0
	9006.08[1]	0	0	0	0	0
	9006.09[1]	0	0	0	0	0
	9007.01[1]	0	0	0	0	0
	9007.03[1]	0	0	0	0	0
	9007.04[1]	0	0	0	0	0
	9007.05	0	0	0	0	0
	9008.03[2]	0	0	0	0	0
	9008.04[1]	0	0	0	0	0
	9008.05	0	0	0	0	0
	9008.06[1,2]	0	0	0	0	0
	9009	0	0	0	0	0
	9010.03[2]	0	0	0	0	0
	9010.04	0	0	0	0	0
	9010.07	0	0	0	0	0
	9010.08	0	0	0	0	0
	9010.09	0	0	0	0	0
	9010.10[1]	0	0	0	0	0
	9010.11	0	0	0	0	0
	9011.01	0	0	0	0	0
	9011.02	0	0	0	0	0
	9012.05	0	0	0	0	0
	9012.09*	0.5	0	0	0	0.5
	9012.10	0	0	0	0	0
	9012.13	0	0	0	0	0
	9100.01[2]	0	0	0	0.3	0.3

Table 4.5-2. Alternative 2 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
Los Angeles (continued)	9100.02	0	0	0	0.5	0.5
	9101.01[1,2]	0	0	0	0	0
	9102.01[1,2]	0	0	0	0	0
	9102.02	0	0	0	0	0
	9102.05	0	0	0	0	0
	9102.06	0	0	0	0	0
	9102.07	0	0	0	0	0
	9102.08	0	0	0	0	0
	9102.09	0	0	0	0.1	0.1
	9102.10	0	0	0	0	0
	9103.01	0	0	0	0	0
	9103.02	0	0	0	0	0
	9104.01	0	0	0	0	0
	9104.02[1,2]	0	0	0	0	0
	9104.03[1,2]	0	0	0	0	0
	9104.04[1,2]	0	0	0	0	0
	9105.01[1,2]	0	0	0	0	0
	9105.02[1,2]	0	0	0	0	0
	9105.04[1,2]	0	0	0	0	0
	9105.05[2]	0	0	0	0	0
	9106.01[1,2]	0	0	0	0	0
	9106.02[1,2]	0	0	0	0	0
	9106.03[2]	0	0	0	0	0
	9106.05[1,2]	0	0	0	0	0
	9106.06[1,2]	0	0	0	0	0
	9107.05[2]	0	0	0	0	0
	9107.06[1,2]	0	0	0	0	0
	9107.07[2]	0	0	0	0	0
	9107.09	0	0	0	0	0
	9107.11[2]	0	0	0	0	0
	9107.12[2]	0	0	0	0	0
	9107.13[2]	0	0	0	0	0
	9107.14[1,2]	0	0	0	0	0
	9107.15[2]	0	0	0	0	0
	9107.16[2]	0	0	0	0	0
	9108.04*	0	0	0	0.4	0.4
	9108.05*	0	0	0	0	0
	9108.12	0	0	0	0.4	0.4
	9110.01	1.0	0	0	1.1	2.1
	9800.03	0.1	0	0	0	0.1
	9800.04[1,2]	0	0	0	0	0

Table 4.5-2. Alternative 2 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
Riverside	469*	43.2	0	0	33.8	77.1
San Bernardino	100.04	0	0	0	0	0
	100.09	0	0	0	0	0
	100.10[1]	0	0	0	0	0
	100.11[1]	0	0	0	0	0
	100.12	0	0	0	0	0
San Bernardino (continued)	100.13	0	0	0	0	0
	100.14[1]	0	0	0	0	0
	100.15[1]	0	0	0	0	0
	100.16[1]	0	0	0	0	0
	100.17	1.2	0	0	0.8	2.0
	100.18[1]	0	0	0	0	0
	100.19[1]	0	0	0	0	0
	100.20[1]	0	0	0	0	0
	100.21[1]	0	0	0	0	0
	100.22	0	0	0	0	0
	100.23	0	0	0	0	0
	100.24[1]	4.3	0	0	2.8	7.1
	100.25[1]	0	0	0	0	0
	100.26[1]	0	0	0	0	0
	103*[1]	758.7	0	0	893.2	1,651.9
	104.02	0.1	0	0	0.3	0.4
	104.09*	125.4	0	0	235.1	360.5
	104.10	0	0	0	1.1	1.1
	104.11	0	0	0	0.3	0.3
	104.12	0	0	0	0	0
	104.13[1]	4.6	0	0	12.5	17.1
	104.15	0	0	0	0.3	0.3
	104.16[1]	14.8	0	0	107.3	122.1
	104.17[1]	1.1	0	0	14.4	15.5
	104.19[1]	0.9	0	0	4.2	5.1
	104.20	0	0	0	7.1	7.1
	104.21[1]	0	0	0	0	0
	104.22	0	0	0	0.9	0.9
	104.23[1]	66.3	0	0	189.5	255.8
	104.24[1]	204.8	0	0	423.1	627.9
	116	892.9	0	1.0	1,970.2	2,864.0
	117[1]	40.2	0	0	164.4	204.5
	118	0.0	0	0	19.5	19.6
	119[1]	111.2	0	0	191.6	302.8

Table 4.5-2. Alternative 2 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
San Bernardino (continued)	120.01	0.1	0	0	3.4	3.5
	120.02	0	0	0	2.2	2.2
	121.01	4.2	0	0	28.9	33.1
	121.03	23.8	0	0	29.8	53.7
	121.04[1]	239.7	0	0	872.3	1,112.0
	250	0.1	0	0	2.0	2.0
	89.01[1]	329.1	0	12.4	867.0	1,208.5
	91.07	0	0	0	0	0
	91.08[1]	0	0	0	0.1	0.1
	91.09	0	0	0	0	0
	91.10	0	0	0	0	0
	91.12[1]	0	0	0	0	0
	91.14	0	0	0	0	0
	91.16[1]	0	0	0	0	0
	91.17[1]	27.4	0	0	96.6	124.0
	91.18	0	0	0	0	0
	91.19	0	0	0	0	0
	92.01	0	0	0	0	0
	931	0	0	0	0.1	0.1
	941	0	0	0	0	0
	951	0	0	0	1.6	1.6
	97.07	0	0	0	0	0
	97.08	86.2	0	0	137.7	223.9
	97.09[1]	0	0	0	0	0
	97.10[1]	0	0	0	0	0
	97.11	0	0	0	0	0
	97.12[1]	0	0	0	0	0
	97.13	0	0	0	0	0
	97.14[1]	0	0	0	0	0
	97.15	0	0	0	0	0
	97.16[1]	0	0	0	0.8	0.8
	97.17	0	0	0	0	0
	98[1]	0	0	0	0	0
	9802[2]	0	0	0	0	0
	99.04[1]	0	0	0	0	0
	99.05[1,2]	0	0	0	0	0
	99.06	0	0	0	0	0
	99.08[1]	0	0	0	0	0
	99.10	0	0	0	0	0
	99.11	0	0	0	0	0
	99.12[1]	0	0	0	0	0
	99.13[1]	0	0	0	0	0

Table 4.5-2. Alternative 2 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
WEMO TOTAL		4,253	28	33	10,545	14,859

*Tracts transect the planning area boundary.33
1Tract contains low-income environmental justice population.
2Tract contains minority environmental justice population.

Alternative 2 Minimization and Mitigation Measures

Because no adverse impacts were identified for Alternative 2, no alternative-specific minimization and mitigation measures were developed to address socioeconomic or environmental justice impacts to include livestock grazing.

4.5.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on socioeconomics and environmental justice is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The socioeconomic and environmental justice impacts of these decisions under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. Designation of the routes for motorized events would provide a socioeconomic benefit to businesses in those local areas. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because an event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989, no direct adverse effects to socioeconomic activity in that area are expected. Because the locations of replacement routes are not known the socioeconomic and environmental justice impacts of those routes would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. Recreational use of the lakebeds is expected to support socioeconomic activity in the local areas near those lakebeds. Therefore, this decision may have a direct, beneficial impact on local businesses near Cuddeback, Coyote, and Chisholm Tail Lake lakebeds.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. Eliminating the permit requirement is not expected to have any effect on socioeconomics or environmental justice populations.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction is not expected to have any effect on motorized use of routes for recreation or other authorized uses, and would therefore not have any impact on socioeconomics.

PA XI: Local socioeconomic conditions, including employment rates, addition or loss of industries, military installations, and even single employers can impact the local or regional economies of San Bernardino, Kern, Los Angeles, and Inyo Counties. Alternative 3 would discontinue livestock grazing on currently inactive allotments, which include Buckhorn Canyon, Harper Lake, Cronese Lake, Cady Mountain, Johnson Valley, Double Mountain and Oak Creek Allotments. Grazing is anticipated to continue at or below current stocking rates. These stocking levels are at their lowest point when compared to historic levels, and if the WEMO Plan is fully implemented, are expected to continue to decrease. Therefore grazing continues to have a nominal influence on local economies in the area.

Alternative 3 Route Designation

In general, motorized access has a beneficial impact on socioeconomics by supporting the larger regional transportation network, facilitating local access for businesses, commercial users and residents, and providing recreation access and opportunities. However, as discussed in Section 4.1.3, the analysis in this Chapter is based on a general assumption that the overall size of the route network is unrelated to the total miles traveled on the network within the planning area. Socioeconomic activity associated with recreation would not be substantively affected by the overall size of the network and, therefore, overall socioeconomic impacts in the planning area would not vary among route network alternatives. Localized effects to these resources would occur depending on specific locations of opened and closed routes, but the regional scale of recreation and associated socioeconomic activity would not change.

Environmental justice minority and low-income populations are located within the WEMO planning area. Environmental justice low-income and minority populations are portrayed in Figure 3.5-1. Additionally, Table 4.5-3 details all of the census tracts within the project area as well as associated route mileage by census tract. As noted in Table 4.5-3, many tracts containing environmental justice populations are not transected by the BLM route network. Of the 58

census tracts within the WEMO planning area that are transected by the route network, 22 tracts, or 38 percent of the census tracts transected by the route network, contain environmental justice populations. This alternative contains the most mileage of open routes and the least mileage of closed routes. Increased mileage of open routes would potentially benefit environmental justice populations with increased job opportunities and access to low-cost recreation, but would also expose environmental justice populations to elevated levels of noise and pollution. The limited number of census tracts that contain environmental justice populations and are transected by the route network indicate that environmental justice populations would not bear a disproportionally high level of adverse impacts.

Table 4.5-3. Alternative 3 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
Inyo	8*	851.7	30.1	2.8	72.0	956.5
Kern	52.01*	165.7	0	8.0	254.4	428.0
	52.03*[1]	604.8	0	13.7	297.3	915.9
	53[1]	0.5	0	0	0	0.5
	54.01	0	0	0	0	0
	54.02	0.4	0	0	0	0.4
	54.03	0	0	0	0	0
	54.04	0.0	0	0	0	0.0
	55.01	883.2	31.1	0	292.9	1,207.3
	55.06	21.6	0	0	0.6	22.3
	55.07[1]	0	0	0	0	0
	55.08[1]	21.0	0	0	1.9	22.9
	56[1]	0	0	0	0	0
	57	1.1	0	0	0.2	1.3
	58.01	0	0	0	0	0
	58.02[1]	1.3	0	0	0.1	1.3
	591	0	0	0	0	0
	60.04*	164.8	0.4	3.3	60.5	229.0
	60.07*	171.8	0	0.6	35.6	208.0
	65[1]	1,050.8	0	0	475.3	1,526.2
Los Angeles	9001.02[1]	37.5	0	0	1.0	38.6
	9001.03[1]	0	0	0	0	0
	9001.04[1]	0	0	0	0	0
	9002.01	1.2	0	0	0	1.2
	9003	0	0	0	0	0
	9005.01[1]	0	0	0	0	0
	9005.04	0	0	0	0	0
	9005.05[1]	0	0	0	0	0
	9005.06	0	0	0	0	0
	9005.07[1]	0	0	0	0	0
	9005.08[1]	0	0	0	0	0
	9006.02[1]	0	0	0	0	0

Table 4.5-3. Alternative 3 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
Los Angeles (continued)	9006.05[1]	0	0	0	0	0
	9006.06[1]	0	0	0	0	0
	9006.07[1,2]	0	0	0	0	0
	9006.08[1]	0	0	0	0	0
	9006.09[1]	0	0	0	0	0
	9007.01[1]	0	0	0	0	0
	9007.03[1]	0	0	0	0	0
	9007.04[1]	0	0	0	0	0
	9007.05	0	0	0	0	0
	9008.03[2]	0	0	0	0	0
	9008.04[1]	0	0	0	0	0
	9008.05	0	0	0	0	0
	9008.06[1,2]	0	0	0	0	0
	9009	0	0	0	0	0
	9010.03[2]	0	0	0	0	0
	9010.04	0	0	0	0	0
	9010.07	0	0	0	0	0
	9010.08	0	0	0	0	0
	9010.09	0	0	0	0	0
	9010.10[1]	0	0	0	0	0
	9010.11	0	0	0	0	0
	9011.01	0	0	0	0	0
	9011.02	0	0	0	0	0
	9012.05	0	0	0	0	0
	9012.09*	0.5	0	0	0.0	0.5
	9012.10	0	0	0	0	0
	9012.13	0	0	0	0	0
	9100.012	0.3	0	0	0	0.3
	9100.02	0.4	0	0	0	0.4
	9101.01[1,2]	0	0	0	0	0
	9102.01[1,2]	0	0	0	0	0
	9102.02	0	0	0	0	0
	9102.05	0	0	0	0	0
	9102.06	0	0	0	0	0
	9102.07	0	0	0	0	0
	9102.08	0	0	0	0	0
	9102.09	0.1	0	0	0	0.1
	9102.10	0	0	0	0	0
	9103.01	0	0	0	0	0
	9103.02	0	0	0	0	0
	9104.01	0	0	0	0	0

Table 4.5-3. Alternative 3 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
Los Angeles (continued)	9104.02[1,2]	0	0	0	0	0
	9104.03[1,2]	0	0	0	0	0
	9104.04[1,2]	0	0	0	0	0
	9105.01[1,2]	0	0	0	0	0
	9105.02[1,2]	0	0	0	0	0
	9105.04[1,2]	0	0	0	0	0
	9105.05[2]	0	0	0	0	0
	9106.01[1,2]	0	0	0	0	0
	9106.02[1,2]	0	0	0	0	0
	9106.03[2]	0	0	0	0	0
	9106.05[1,2]	0	0	0	0	0
	9106.06[1,2]	0	0	0	0	0
	9107.05[2]	0	0	0	0	0
	9107.06[1,2]	0	0	0	0	0
	9107.07[2]	0	0	0	0	0
	9107.09	0	0	0	0	0
	9107.11[2]	0	0	0	0	0
	9107.12[2]	0	0	0	0	0
	9107.13[2]	0	0	0	0	0
	9107.14[1,2]	0	0	0	0	0
	9107.15[2]	0	0	0	0	0
	9107.16[2]	0	0	0	0	0
	9108.04*	0.4	0	0	0	0.4
	9108.05*	0	0	0	0	0
	9108.12	0.4	0	0	0	0.4
	9110.01	2.1	0	0	0	2.1
	9800.03	0.1	0	0	0	0.1
	9800.04[1,2]	0	0	0	0	0
Riverside	469*	74.2	0	0	2.8	77.1
San Bernardino	100.04	0	0	0	0	0
	100.09	0	0	0	0	0
	100.10[1]	0	0	0	0	0
	100.11[1]	0	0	0	0	0
	100.12	0	0	0	0	0
	100.13	0	0	0	0	0
	100.14[1]	0	0	0	0	0
	100.15[1]	0	0	0	0	0
	100.16[1]	0	0	0	0	0
	100.17	2.0	0	0	0	2.0
	100.18[1]	0	0	0	0	0
	100.19[1]	0	0	0	0	0

Table 4.5-3. Alternative 3 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
San Bernardino (continued)	100.20[1]	0	0	0	0	0
	100.21[1]	0	0	0	0	0
	100.22	0	0	0	0	0
	100.23	0	0	0	0	0
	100.24[1]	5.5	0	0	1.6	7.1
	100.25[1]	0	0	0	0	0
	100.26[1]	0	0	0	0	0
	103*[1]	1,236.6	0	0	415.7	1,652.3
	104.02	0.4	0	0	0.0	0.4
	104.09*	312.4	0	0	48.0	360.5
	104.10	1.0	0	0	0	1.0
	104.11	0.3	0	0	0	0.3
	104.12	0	0	0	0	0
	104.13[1]	6.0	0	0	11.1	17.1
	104.15	0.3	0	0	0	0.3
	104.16[1]	119.9	0	0	2.2	122.1
	104.17[1]	3.4	0	0	12.1	15.5
	104.19[1]	4.6	0	0	0.5	5.1
	104.20	5.1	0	0	2.0	7.1
	104.21[1]		0	0	0	0
	104.22	0.9	0	0	0	0.9
	104.23[1]	253.4	0	0.8	1.5	255.6
	104.24[1]	580.6	0	0	47.7	628.3
	116	1,725.5	3.2	1.0	1,131.4	2,861.1
	117[1]	72.4	0	0	131.6	204.0
	118	13.8	0	0	0.5	14.3
	119[1]	220.0	0	0	82.2	302.2
	120.01	3.5	0	0	0.0	3.5
	120.02	0.1	0	0	2.1	2.2
	121.01	7.5	0	0	25.6	33.1
	121.03	52.0	0	0	1.8	53.7
	121.04[1]	409.9	0.0	0	702.3	1,112.2
	250	0.4	0	0	1.6	2.0
	89.01[1]	891.9	17.1	4.7	294.8	1,208.5
	91.07	0	0	0	0	0
	91.08[1]	0.1	0	0	0	0.1
	91.09	0	0	0	0	0
	91.10	0	0	0	0	0
	91.12[1]	0	0	0	0	0
	91.14	0	0	0	0	0
	91.16[1]	0	0	0	0	0

Table 4.5-3. Alternative 3 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
San Bernardino (continued)	91.17[1]	61.3	0	0	62.8	124.1
	91.18	0	0	0	0	0
	91.19	0	0	0	0	0
	92.01	0	0	0	0	0
	93[1]	0.1	0	0	0	0.1
	94[1]	0	0	0	0	0
	95[1]	1.6	0	0	0	1.6
	97.07	0	0	0	0	0
	97.08	147.4	0	0	76.5	223.9
	97.09[1]	0	0	0	0	0
	97.10[1]	0	0	0	0	0
	97.11	0	0	0	0	0
	97.12[1]	0	0	0	0	0
	97.13	0	0	0	0	0
	97.14[1]	0	0	0	0	0
	97.15	0	0	0	0	0
	97.16[1]	0	0	0	0.8	0.8
	97.17	0	0	0	0	0
	98[1]	0	0	0	0	0
	9802[2]	0	0	0	0	0
	99.04[1]	0	0	0	0	0
	99.05[1,2]	0	0	0	0	0
	99.06	0	0	0	0	0
	99.08[1]	0	0	0	0	0
	99.10	0	0	0	0	0
	99.11	0	0	0	0	0
	99.12[1]	0	0	0	0	0
	99.13[1]	0	0	0	0	0
WEMO TOTAL		**10,196**	**82**	**35**	**4,551**	**14,864**

*Tracts transect the planning area boundary.
1Tract contains low-income environmental justice population.
2Tract contains minority environmental justice population.

Alternative 3 Minimization and Mitigation Measures

Because no adverse impacts were identified for Alternative 3, no alternative-specific minimization and mitigation measures were developed to address socioeconomic impacts to include livestock grazing.

4.5.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on socioeconomics and environmental justice is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on socioeconomics and environmental justice. However, this decision would make it easier for BLM to consider socioeconomic and environmental justice impacts in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on socioeconomics and environmental justice.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The socioeconomics and environmental justice impacts of these decisions under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. Designation of the routes for motorized events would provide a socioeconomic benefit to businesses in those local areas. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures. This action would result in an increase in socioeconomic activity in that local area.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Recreational use of the lakebeds is expected to support socioeconomic activity in the local areas near those lakebeds. Therefore, this decision may have a direct, beneficial impact on local businesses near Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction is not expected to have any effect on motorized use of routes for recreation or other authorized uses, and would therefore not have any impact on socioeconomics or environmental justice.

PA XI: Local socioeconomic conditions, including employment rates, addition or loss of industries, military installations, and even single employers can impact the local or regional economies of San Bernardino, Kern, Los Angeles, and Inyo Counties. Grazing is anticipated to continue at or below current stocking rates. These stocking levels are at their lowest point when compared to historic levels, and if the WEMO Plan is fully implemented, are expected to continue to decrease. Therefore grazing continues to have a nominal influence on local economies in the area.

Alternative 4 Route Designation

In general, motorized access has a beneficial impact on socioeconomics by supporting the larger regional transportation network, facilitating local access for businesses, commercial users and residents, and providing recreation access and opportunities. However, as discussed in Section 4.1.3, the analysis in this Chapter is based on a general assumption that the overall size of the route network is unrelated to the total miles traveled on the network within the planning area. Socioeconomic activity associated with recreation would not be substantively affected by the overall size of the network and, therefore, overall socioeconomic impacts in the planning area would not vary among route network alternatives. Localized effects to these resources would occur depending on specific locations of opened and closed routes, but the regional scale of recreation and associated socioeconomic activity would not change.

Environmental justice minority and low-income populations are located within the WEMO planning area. Environmental justice low-income and minority populations are portrayed in Figure 3.5-1. Additionally, Table 4.5-4 details all of the census tracts within the project area as well as associated route mileage by census tract. As noted in Table 4.5-4, many tracts containing environmental justice populations are not transected by the BLM route network. Of the 55 census tracts within the WEMO planning area that are transected by the route network, 20 census tracts, or 36 percent of the census tracts that are transected by the route network, contain environmental justice populations. This alternative contains more mileage of open routes and less mileage of closed routes than Alternative 2, but less mileage of open routes and more mileage of closed routes than Alternative 3. Increased mileage of open routes would potentially benefit environmental justice populations with increased job opportunities and access to low-cost recreation, but would also expose environmental justice populations to elevated levels of noise

and pollution. The limited number of census tracts that contain environmental justice populations and are transected by the route network relative to the total number of census tracts that are transected by the route network, indicate that environmental justice populations would not bear a disproportionally high level of adverse impacts.

Table 4.5-4. Alternative 4 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
Inyo	8*	471.5	2.3	1.6	487.2	962.6
Kern	52.01*	108.1	4.4	0.1	315.0	427.6
	52.03*[1]	260.8	0	1.5	653.9	916.1
	53[1]	0	0	0	0.3	0.3
	54.01	0	0	0	0	0
	54.02	0	0	0	0.4	0.4
	54.03	0	0	0	0	0
	54.04	0	0	0	0	0
	55.01	363.7	44.9	0	796.0	1,204.7
	55.06	0	0	0	19.9	19.9
	55.07[1]	0	0	0	0	0
	55.08[1]	0.0	0	0	21.9	21.9
	56[1]	0	0	0	0	0
	57	0.6	0	0	0.7	1.2
	58.01	0	0	0	0	0
	58.02[1]	0	0	0	1.3	1.3
	591	0	0	0	0	0
	60.04*	72.5	0	0	159.5	231.9
	60.07*	9.6	0	4.0	193.1	206.7
	65[1]	414.6	11.0	0	1,098.8	1,524.3
Los Angeles	9001.02[1]	0.4	0	0	37.6	38.0
	9001.03[1]	0	0	0	0	0
	9001.04[1]	0	0	0	0	0
	9002.01	0.0	0	0	1.2	1.2
	9003	0	0	0	0	0
	9005.01[1]	0	0	0	0	0
	9005.04	0	0	0	0	0
	9005.05[1]	0	0	0	0	0
	9005.06	0	0	0	0	0
	9005.07[1]	0	0	0	0	0
	9005.08[1]	0	0	0	0	0
	9006.02[1]	0	0	0	0	0
	9006.05[1]	0	0	0	0	0
	9006.06[1]	0	0	0	0	0
	9006.07[1,2]	0	0	0	0	0
	9006.08[1]	0	0	0	0	0
	9006.09[1]	0	0	0	0	0

Table 4.5-4. Alternative 4 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
Los Angeles (continued)	9007.01[1]	0	0	0	0	0
	9007.03[1]	0	0	0	0	0
	9007.04[1]	0	0	0	0	0
	9007.05	0	0	0	0	0
	9008.03[2]	0	0	0	0	0
	9008.04[1]	0	0	0	0	0
	9008.05	0	0	0	0	0
	9008.06[1,2]	0	0	0	0	0
	9009	0	0	0	0	0
	9010.03[2]	0	0	0	0	0
	9010.04	0	0	0	0	0
	9010.07	0	0	0	0	0
	9010.08	0	0	0	0	0
	9010.09	0	0	0	0	0
	9010.10[1]	0	0	0	0	0
	9010.11	0	0	0	0	0
	9011.01	0	0	0	0	0
	9011.02	0	0	0	0	0
	9012.05	0	0	0	0	0
	9012.09*	0	0	0	0.5	0.5
	9012.10	0	0	0	0.0	0.0
	9012.13	0	0	0	0	0
	9100.01[2]	0	0	0	0.3	0.3
	9100.02	0	0	0	0.5	0.5
	9101.01[1,2]	0	0	0	0	0
	9102.01[1,2]	0	0	0	0	0
	9102.02	0	0	0	0	0
	9102.05	0	0	0	0	0
	9102.06	0	0	0	0	0
	9102.07	0	0	0	0	0
	9102.08	0	0	0	0	0
	9102.09	0	0	0	0.1	0.1
	9102.10	0	0	0	0	0
	9103.01	0	0	0	0	0
	9103.02	0	0	0	0	0
	9104.01	0	0	0	0	0
	9104.02[1,2]	0	0	0	0	0
	9104.03[1,2]	0	0	0	0	0
	9104.04[1,2]	0	0	0	0	0
	9105.01[1,2]	0	0	0	0	0
	9105.02[1,2]	0	0	0	0	0

Table 4.5-4. Alternative 4 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
Los Angeles (continued)	9105.04[1,2]	0	0	0	0	0
	9105.05[2]	0	0	0	0	0
	9106.01[1,2]	0	0	0	0	0
	9106.02[1,2]	0	0	0	0	0
	9106.03[2]	0	0	0	0	0
	9106.05[1,2]	0	0	0	0	0
	9106.06[1,2]	0	0	0	0	0
	9107.05[2]	0	0	0	0	0
	9107.06[1,2]	0	0	0	0	0
	9107.07[2]	0	0	0	0	0
	9107.09	0	0	0	0	0
	9107.11[2]	0	0	0	0	0
	9107.12[2]	0	0	0	0	0
	9107.13[2]	0	0	0	0	0
	9107.14[1,2]	0	0	0	0	0
	9107.15[2]	0	0	0	0	0
	9107.16[2]	0	0	0	0	0
	9108.04*	0	0	0	0.4	0.4
	9108.05*	0	0	0	0	0
	9108.12	0	0	0	0.4	0.4
	9110.01	0	0	0	2.1	2.1
	9800.03	0	0	0	0.1	0.1
	9800.04[1,2]	0	0	0	0	0
Riverside	469*	46.3	0	0	30.6	77.0
San Bernardino	100.04	0	0	0	0	0
	100.09	0	0	0	0	0
	100.10[1]	0	0	0	0	0
	100.11[1]	0	0	0	0	0
	100.12	0	0	0	0	0
	100.13	0	0	0	0	0
	100.14[1]	0	0	0	0	0
	100.15[1]	0	0	0	0	0
	100.16[1]	0	0	0	0	0
	100.17	0	0	0	2.0	2.0
	100.18[1]	0	0	0	0	0
	100.19[1]	0	0	0	0	0
	100.20[1]	0	0	0	0	0
	100.21[1]	0	0	0	0	0
	100.22	0	0	0	0	0
	100.23	0	0	0	0	0
	100.24[1]	0	0	0	7.1	7.1

Table 4.5-4. Alternative 4 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
San Bernardino (continued)	100.25[1]	0	0	0	0	0
	100.26[1]	0	0	0	0	0
	103*[1]	987.6	0	0	656.2	1,643.8
	104.02	0.1	0	0	0.3	0.4
	104.09*	157.3	0	0	199.4	356.7
	104.10	0	0	0	1.1	1.1
	104.11	0	0	0	0.3	0.3
	104.12	0	0	0	0	0
	104.13[1]	4.6	0	0	12.5	17.1
	104.15	0	0	0	0.3	0.3
	104.16[1]	15.8	0	0	103.8	119.6
	104.17[1]	1.4	0	0	13.9	15.3
	104.19[1]	1.0	0	0	4.0	5.0
	104.20	0	0	0	7.1	7.1
	104.21[1]	0	0	0	0	0
	104.22	0	0	0	0.9	0.9
	104.23[1]	76.7	0	3.4	174.0	254.1
	104.24[1]	212.9	0	0	415.5	628.4
	116	1,343.7	0	1.0	1,514.0	2,858.7
	117[1]	45.0	0	0	157.9	202.9
	118	0.0	0	0	12.8	12.8
	119[1]	129.7	0	0	172.0	301.7
	120.01	0.0	0	0	2.9	3.0
	120.02	0.6	0	0	1.6	2.2
	121.01	6.1	0	0	26.7	32.8
	121.03	26.4	0	0	27.2	53.6
	121.04[1]	342.3	0	0	768.0	1,110.3
	250	0.5	0	0	1.5	2.0
	89.01[1]	510.9	0	6.1	687.4	1,204.4
	91.07	0	0	0		
	91.08[1]	0	0	0	0.1	0.1
	91.09	0	0	0	0	0
	91.10	0	0	0	0	0
	91.12[1]	0	0	0	0	0
	91.14	0	0	0	0	0
	91.16[1]	0	0	0	0	0
	91.17[1]	27.7	0	0	110.1	137.8
	91.18	0	0	0	0	0
	91.19	0	0	0	0	0
	92.01	0	0	0	0	0
	93[1]	0.1	0	0	0	0.1

Table 4.5-4. Alternative 4 Mileage of Routes within Census Tracts

Location/County	Census Tracts	Motorized	Non-Motorized	Non-Mechanized	Closed	Grand Total
San Bernardino (continued)	94[1]	0	0	0	0	0
	95[1]	0	0	0	1.5	1.5
	97.07	0	0	0	0	0
	97.08	84.5	0	3.7	134.8	223.0
	97.09[1]	0	0	0	0	0
	97.10[1]	0	0	0	0	0
	97.11	0	0	0	0	0
	97.12[1]	0	0	0	0	0
	97.13	0	0	0	0	0
	97.14[1]	0	0	0	0	0
	97.15	0	0	0	0	0
	97.16[1]	0	0	0	0.8	0.8
	97.17	0	0	0	0	0
	98[1]	0	0	0	0	0
	9802[2]	0	0	0	0	0
	99.04[1]	0	0	0	0	0
	99.05[1,2]	0	0	0	0	0
	99.06	0	0	0	0	0
	99.08[1]	0	0	0	0	0
	99.10	0	0	0	0	0
	99.11	0	0	0	0	0
	99.12[1]	0	0	0	0	0
	99.13[1]	0	0	0	0	0
WEMO TOTAL		**5,723**	**63**	**21**	**9,040**	**14,846**

*Tracts transect the planning area boundary.
1Tract contains low-income environmental justice population.
2Tract contains minority environmental justice population.

Alternative 4 Minimization and Mitigation Measures

Because no adverse impacts were identified for Alternative 4, no alternative-specific minimization and mitigation measures were developed to address socioeconomic impacts to include livestock grazing.

4.6 Recreation

4.6.1 Introduction

Affected Environment Summary

Section 3.6 describes the recreation setting and opportunities in the planning area. The transportation network in the West Mojave Planning Area supports recreation by providing a means to access recreation destinations, and by providing the locations and facilities in which OHV, hiking, biking, equestrian, and other transportation-based forms of recreation can occur. With its location only 90 minutes from 21 million residents in the metropolitan Los Angeles area, the West Mojave is a primary recreation destination for millions of people interested in outdoor-based activities such as OHV use, hiking, camping, touring, and viewing of scenery. Documented recreation activities throughout the West Mojave encompass a highly diverse range of activities, but most commonly evolve around the use of motor vehicles as a focal or ancillary element of the visitor experience. Beyond the mobility component of the experience, described recreation activities tend to emphasize immersion in the area's natural resources (solitude, expansive vistas, wildlife, vegetation, terrain, and minerals) as opposed to manmade attractions and conveniences such as theme parks, outlet centers, vacation resorts, and convention centers. Outdoor recreation opportunities in the region span the entire range of BLM recreation settings from urban to primitive.

Recreation activities on BLM lands can occur in designated areas and facilities, and as part of authorized events. They can also occur outside of designated areas and events. Popular outdoor recreation activities in the planning area include:

OHV Recreational Touring: OHV touring often occurs on flat terrain, but such touring also takes place in mountainous terrain using jeeps and similar vehicles. Vehicles that allow for multi-terrain travel have a broad range of access needs since they can traverse different types of terrain features.

Motorcycle Events: OHV access is necessary, not only due to the distance that must be traveled to reach the site of a motorcycle speed, challenge, or other competitive event, but also because significant equipment and supplies must be brought to event staging areas. This is true even for dual sport motorcycles, despite their "street legal" status, because a larger OHV may still be necessary to transport related equipment and supplies to motorcycle parks, other staging areas, or trailheads. This is due largely to the distance that such recreationists travel to participate in their activity, and the motorcycle's limited carrying capacity.

Camping and Hiking: Visitors need OHV access to staging areas and trailheads, and must bring supplies to camp in desert areas. Campers generally stay at locations that are fairly remote to obtain the level of solitude that is associated with the camping experience. In the desert, these locations are typically not located along major highways. Hikers use OHVs to reach trailheads and staging areas that are often quite remote.

Equestrian Riding: Equestrians use motorized vehicles to pull their horse trailers, and other equipment and supplies, to staging areas where they unload their horses, saddle up, and otherwise prepare for rides. Without the use of OHVs, equestrians would be unable to reach these staging areas, where watering holes, corrals, and related facilities are commonly present.

Gem Collecting and Rock Hounding: This activity generally occurs in geologic areas that offer the possibility of finding desired gems and rocks. Many of these areas are remote, and a four-wheel-drive OHV is needed to access them. The vehicle is also required to bring the variety of supplies necessary to safely participate in this form of recreation.

Hunting: Hunters require OHV access to reach trailheads and staging areas, which tend to be remote. From here, they can set out to hunt. Hunters use motorized vehicles to carry their supplies and equipment, which may include camping gear and to remove game.

Site Viewing: Often OHV's are driven to different locations to view and appreciate the various natural or man-made features that can be found in the California desert. Some of the more common types of features visited this way include unique geologic features, petroglyph sites, and mining features. For many people that enjoy going to these various sites the recreational activity is seeing the feature over the traveling to the site.

Each of these activities requires transportation access for motorized vehicles, or designation and maintenance of non-motorized and non-mechanized trails for access.

Methodology

The 2005 WEMO EIS analyzed the impacts of the proposed action, including the 5,098 mile route network and OHV use, on recreation. The Court's Summary Judgment and Remedy Orders did not specifically reach conclusions, or provide direction, regarding the sufficiency of the recreation analysis.

For this SEIS for the WMRNP, BLM performed the following:

- Used 2012 Recreation Information Management System (RIMS) data to update the recreation use information in Section 3.6.
- The route designation process for each alternative included evaluation of the location of each route with respect to known recreation uses, and to potential safety hazards. It also included designation of non-motorized and non-mechanized routes, as well as designation of 15 recreation-specific sub-designations.
- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, and changes in conditions within the planning area. This additional information is incorporated into the evaluation in Section 4.6.2 below.

4.6.2 Impacts Common to All Alternatives

The WMRNP includes decisions that could affect both the availability and quality of recreation opportunities within the planning area. In general, WMRNP decisions that increase the size of the transportation network available to recreation users are beneficial for those users, and provide access to greater variety of destinations. In contrast, decisions that decrease the size of the network generally limit recreational experiences and access to destinations, and may be an adverse impact.

In addition to affecting the availability of recreation opportunities, the size of the transportation network also affects the quality of the recreation experience. A large reduction of the size of the available network would generally cause an increase in the number of recreation users in the

areas that remain available. Because solitude in the planning area is a major attraction for many recreationists, increases in the density of users in any given area is generally considered an adverse impact to the recreation experience. In contrast, increases in the size of the network would be considered beneficial, as recreation users would be more widely dispersed.

In addition to the size and configuration of the transportation network, the WMRNP includes establishment of objectives and implementation strategies that can affect the quality of recreation experiences. The selected objectives would be used as the framework for determining the size and configuration of the network, and would thus have an indirect impact on recreation users, as described in the above paragraphs.

The limitations on access route uses and types can also result in adverse or beneficial impacts to recreation users. In the WMRNP, these limitations include specifications for competitive use routes, motorcycles, ATVs, and jeeps/trucks. They may also specify non-motorized uses (e.g bicycling) and/or non-mechanized uses (hiking and equestrian) only. Limits may also provide for seasonal or authorized use only. These limitations for each alternative were made based on the size of the route, the known users, and to minimize potential resource conflicts and conflicts between users. Similar to the overall size of the network, the limitations on use and type can adversely affect users of one mode of transportation if the number of routes available to them is limited, and can have a beneficial impact on another class of users if the number of routes available to them is increased and routes are interconnected to provide a variety of experiences for specific user groups. In addition, providing routes for specific motorized uses can alleviate use conflicts on routes where multiple modes of travel are an issue and reducing quality of recreation experiences. Also, designating routes to create a transportation network that provides a variety of recreation opportunities and experiences (out and back, round trip, hillclimb, touring, etc.) is beneficial to recreation users.

The implementation strategies considered as part of the WMRNP include measures that would place restrictions on the adopted network that pertain to the allowed mode of transport, types of vehicles, time or season of use, speed, and other parameters associated with use of the network. These restrictions are intended to protect other resources. In general, many recreation users may consider these restrictions as a direct, adverse impact on their experience. However, these restrictions can also be considered beneficial for other users. For instance, speed and noise restrictions may be beneficial for users who prefer to enjoy their experience in quieter, safer environment, as the restrictions would limit the activities of the other users of the same area. These restrictions also have an indirect beneficial effect on the recreation experience by protecting biological, cultural, and scenic resources that attract users to the area in the first place. Although certain users may consider the restrictions to be an adverse impact to their individual experience, the cumulative effect of allowing all users to operate without restrictions could damage resources, resulting in a longer-term impact on the experience for all users.

Another consideration in the designation of routes in the planning area is safety. Encounters with safety hazards associated with abandoned mining features are a well-known risk in the West Mojave. Therefore, designation of a transportation network, and implementation of use restrictions, in consideration of the known locations of these hazards is beneficial for users of these areas.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives

were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. Recreation impacts were considered in the development of alternative goals and objectives, in designation of individual routes, and in defining specific implementation parameters. The goals and objectives for Alternative 2 focus on enhancing sensitive resource values and areas while managing access to de-emphasize casual multiple-use motorized and mechanized touring. In contrast, the goals and objectives for Alternative 3 focus on managing access to emphasize casual multiple-use motorized and mechanized touring.

Recreation impacts were also considered in the designation of individual routes. The effect of the designation of a route on recreation uses in the area was considered on a case-by-case basis by BLM recreation specialists reviewing connections to other routes, vehicle types that use a route, intersections with designated trails, specific recreational destinations that the route provides access to, or association of a route with special recreation permits.

There are no impacts to recreation from the grazing alternatives in PA XI; therefore, there is no further discussion of PA XI in this section.

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4. For safety issues associated with recreation, these include:

- Remediate abandoned mine land features or other safety hazards;
- Install fencing;
- Install Signs;
- Temporarily close routes while safety issues are addressed;
- Install barriers and maintain or upgrade existing barriers;
- Limit Special Recreation Permitted Use;
- Remove Attractants;
- Monitor the route for signs of increasing impacts to a sensitive area, and
- Determine that no additional minimization and mitigation measure is needed based on site evaluation.

Residual Impacts After Implementation of Mitigation Measures

Residual effects to recreation would continue after application of mitigation measures. Although the mitigation measures would reduce the potential for recreational users to encounter safety hazards, unidentified hazards are likely to continue to exist. Also, mitigation measures implemented to address biological, cultural, and other resource impacts, including route closures and other route limitations, would restrict the range of routes available for recreational use. Although the total miles traveled for recreational use in the planning area would remain the

same, this use would occur within a more limited area, potentially affecting the recreational experience for users who seek recreation in more remote, unpopulated areas.

4.6.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to recreation. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider recreation and other use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit recreation by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. Because these activities do not affect recreation, the No Action alternative would have no direct or indirect impact on recreation.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that the size and configuration of the available transportation network, and the management strategies for that network, can have both adverse and beneficial effects on recreation users. The mileage of routes available to the various different types of recreation users in the area under the No Action Alternative is presented in Table 4.6-1.

Under the No Action Alternative, there currently are no routes designated for most specific recreational activities except a small motorcycle network,, and therefore relatively few impacts to any specific type of recreation user. Implementation strategies would remain the same as currently specified in the CDCA Plan. Those strategies include several restrictions on motorized vehicle use in order to achieve resource protection. Examples of restrictions include the limitation on stopping, parking and vehicle-based camping in DWMAs to 50 feet of centerline of routes and the requirement under this alternative for visitors to the Rand Mountains to complete an educational program and purchase a permit before they are allowed to use a motorized vehicle on the designated route network within the Rand Mountains. Therefore, adverse impacts from these restrictions would continue for users that consider the current restrictions as adverse to their experience.

Table 4.6-1. Alternative 1 - Miles of Routes which Support Recreation[1]

Resource Description	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Routes Designated for Activity				
ATV/UTV	0	0	0	0
Biking	0	0	0	0
Hiking	0	0	10.7	0
Horseback Riding	0.1	0	0	0
Motorcycling	38.3	0	0	0
OHV	5338.2	0	0	0
Miles of Routes for Access to Activity				
Cabin Site	31.1	0	0	25
Camping	577.8	0	0	248.5
Caving	27	0	0	6.2
Guzzler	66.1	0	0	33
Motorized Staging Area	109.6	0	0	29.4
Overlook	248.8	0	0	71.5
Rockhounding	568.1	0	0	720.7
Target Shooting	129.3	0	0	51.1
Trailhead	26.3	0	0	10.2

[1] The sub-designation mileages are considered preliminary, and are likely to be revised prior to issuing the Final SEIS.

The analysis also concluded that safety hazards, including those associated with abandoned mining features, present an adverse impact to recreation. The mileage of routes located in close proximity to identified abandoned mine land hazards associated with the No Action Alternative is presented in Table 4.6-2.

Table 4.6-2. Alternative 1 - Miles of Routes in Proximity to Safety Hazards

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Within 100 Feet of Abandoned Mine or Other Identified Safety Hazard	30.9	0.6	0	0.1	47

Alternative 1 Minimization and Mitigation Measures

Table 2.3-1 describes the network-wide minimization and mitigation measures that are currently specified in the CDCA Plan, WEMO Plan, and/or the Court's Remedy Order, and which are therefore applicable under Alternative 1, the No Action Alternative. In general, these measures focus on resource protection, and therefore place restrictions on the development of new routes to support recreation. These restrictions include the one percent limit on allowable new ground disturbance in DWMAs, distance limitations on stopping and parking, and efforts to disguise and rehabilitate closed routes. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific impacts to recreation are considered before authorizing new motorized routes.

4.6.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to recreation. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider recreation and other use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit recreation by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The recreation impacts of each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to recreation. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The recreation impacts of these decisions under Alternative 2 are as follows:

PA VII: It is anticipated that the overall number of SRP applications will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to recreation.

Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. These routes would continue to be open for casual use touring in the area throughout the year, which would be beneficial for recreation in the area.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. The restriction in use of the existing C routes, and the elimination of the Johnson Valley to Parker route, would be a direct, adverse impact to recreation for participants in those events.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. The closure of Koehn Lakebed would result in a direct, adverse impact to recreational uses of that lakebed. Because Koehn lakebed is currently receiving relatively light use, this impact is expected to be small.

PA IX: There would be no change to access to the Rand Mountains-Fremont Valley Management Area under Alternative 2. The Rand Mountains-Fremont Valley Management Area would continue to be managed consistent with parameters outlined in 2.2.1.2.4 of the WEMO FEIS, including the use of a permit system for those visitors desiring to use vehicles within the Rand Mountains. Before one can travel into the management area, one must complete a test and then purchase a permit to use the public lands within the area. This would have a negative effect on recreation within the Rand Mountains-Fremont Valley Management Area by impeding recreational access onto the public lands within the area. Additionally, those public land visitors that desire to use vehicles on the public lands may view this as a discriminatory action against their particular form of recreational use. They may also feel that this is an unjust fee placed upon them for use of generally undeveloped public lands.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative would have a significant effect on recreational use. Based on the assumption that routes are 12 feet wide (Table 4.1-1) the usable space for parking and camping is reduced down to 44 feet from the edge of the road once the 6 feet from center line is subtracted from the allowed 50 feet. The impact would predominately affect those recreational users that camp or use vehicles and trailers to transport their equipment to a remote starting point to continue their recreational activities. These recreational users are frequently driving full size pickups, SUVs, or motorhomes and pulling larger trailers. The average size for a full size pickup is about 20 feet in length, motorhomes and travel trailers range in size from 20 to 40 feet in length, and utility trailers average between 10 to 20 feet in length. Because of the overall sizes of their vehicles when put together it is very difficult for these recreational users to pull off the road and get turned around within the allowed 44 feet. Additionally, recreationists frequently visit in larger groups, and this limitation would not allow for them to assemble as a group safely to the side of a route.

Alternative 2 Route Designation

Section 4.6.2 described the general impacts to recreation that are common to all alternatives. That analysis concluded that the size of the available transportation network, and the management restrictions placed on that network, can have both adverse and beneficial effects on recreation users. The mileage of routes available to the various different types of recreation users in the area under Alternative 2 is presented in Table 4.6-3.

Table 4.6-3. Alternative 2 - Miles of Routes which Support Recreation

Resource Description	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Routes Designated for Activity				
ATV/UTV	198.3	0	0	3.1
Bicycle	0	0	0	0.1
Hiking	21	0	18.1	10.7
Horseback Riding	1	0	14.2	1.5
Motorcycling	220.8	0	0	3.1
OHV	4290.5	0	0	0
Miles of Routes for Access to Activity				
Cabin Site	21.6	0	0	34.3
Camping	377.9	5.1	1.3	434.4
Caving	21	0	0	12.3
Guzzler	48.8	0	0	50.5
Motorized Staging Area	87	0	0	49.9
Overlook	167.5	0	0	149.6
Rockhounding	453.3	9.3	0	813.8
Target Shooting	93	0	0	86.9
Trailhead	19.8	0	0	15.5

[1] The sub-designation mileages are considered preliminary, and are likely to be revised prior to issuing the Final SEIS.

The analysis also concluded that safety hazards, including those associated with abandoned mining features, present an adverse impact to recreation. The mileage of routes located in close proximity to identified abandoned mine land hazards associated with Alternative 2 is presented in Table 4.6-4.

Table 4.6-4. Alternative 2 - Miles of Routes in Proximity to Safety Hazards

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Within 100 Feet of Abandoned Mine or Other Identified Safety Hazard	14.9	0.3	0.4	0.1	53.9

Alternative 2 reduces the miles of available routes of travel for use by the casual public by 1863 miles from Alternative 1. Of these 1863 miles of routes, 1045 miles are closed (designated as transportation linear disturbances), while 818 of the miles are designated for

Authorized/Permitted and Administrative use only. The miles available for use by Non-street legal vehicles (i.e. Quads, UTVs, and Dune buggies) is further reduced by 220 miles, leaving a network available for casual public use on non-street legal vehicles at a total of 3107 miles. Alternative 2 creates a 198 mile network of ATV/UTV routes, while Alternative 1 has 0 miles of routes specified for this type of use. Alternative 2 creates a 221 mile network of motorcycle routes, while Alternative 1 has only 38 miles of designated motorcycle routes, which is an increase of 183 miles designated for motorcycles. Alternative 2 also creates a 18 mile network of hiking routes, while Alternative 1 has only 10 miles designated for such use, which is an increase of 8 miles designated for hiking.

Alternative 2 Minimization and Mitigation Measures

Table 2.3-5 describes the network-wide minimization and mitigation measures that would be applied under Alternative 2. In general, these measures focus on resource protection, and therefore place restrictions on the development of new routes to support recreation. These restrictions include the one percent limit on allowable new ground disturbance in DWMAs, distance limitations on stopping and parking, and efforts to disguise and rehabilitate closed routes. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific impacts to recreation are considered before authorizing new motorized routes.

4.6.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on recreation is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions to recreation under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. The Summit Range and the area east of Highway 395 along with the area to the northeast of the Spangler Hills Open Area have approximately 20-30 miles of routes in each area. These designated C routes were originally identified and approved for use in the Spangler Hills OHV Area Management Plan (1992). The terrain in these areas ranges from rolling hills to steep hills and

sandy drainages. This topographic diversity and open space is extremely desirable to OHV enthusiasts providing technically challenging opportunities no matter what ones skill level maybe. Additionally, these additional miles of trails enhance the ability to lay out long distance OHV competitive events.

The designation of C routes within the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area would provide for connectivity from the community to the Open area. There are two proposed areas that these C routes would connect within the community and those are around the Cerro Coso Community College and the Desert Empire Fairgrounds. Connecting these trails to these two locations would provide the ability for an event to start and/or end within the community. Plus these routes would provide a potential for economic diversity to the local community and local residents to come out and be spectators for events starting from the community. About 10 to 20 miles of routes would be designated as being available for competitive use. The terrain in this urban interface area includes the rising desert floor to sandy hills with sandy drainages.

In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Any Race staging area for C routes would still be limited to MUC Intensive (Class l) lands, and pit areas would be limited to those areas previously dedicated as Pit areas along the route. The elimination of the Johnson Valley to Parker route would be a direct, adverse impact to recreation for participants in those events. The designation of the Johnson Valley North unit-to-Johnson Valley South unit and the Stoddard Valley-to-Johnson Valley competitive events connectors would result in beneficial impacts to recreational use and partially offset the loss of 98,000 acres that are no longer available for competitive events under SRP as a result of the MCAGACC expansion.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. This would result in a direct, adverse impact to recreational uses of Koehn lakebed, but an overall beneficial impact by opening the other three lakebeds to recreational uses.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The requirement for visitors to obtain a use permit before using a motor vehicle inside the Rand Mountains would be replaced with an intensively managed designated route network. The remaining general management frame work for the Rand Mountain – Fremont Valley Management Area would stay intact as outlined in 2.2.1.2.4 of the WEMO FEIS and the No Action Alternative. Removing the requirement for visitors to obtain a SRP use permit before using a motor vehicle inside the Rand Mountains would have an overall positive effect on recreational access to the area. This action would remove the impediment to the availability of the public lands for recreational access and use based purely on their choice of mode of travel. This would have an overall positive effect on recreational access to the area by expanding the availability of recreational opportunities within the WEMO planning area.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction to the allowed stopping, parking, and camping distance would have a significant effect on recreational use. Based on the assumption that routes are 12 feet wide (Table 4.1-1) the usable space for parking and camping is reduced down to 94 feet from the edge of the road once the 6 feet from center line is subtracted from the allowed 100 feet. The impact would be predominately affect by those recreational users that camp or use vehicles and trailers to transport their equipment to a remote starting point to continue their recreational activities. These recreational users are frequently driving full size pickups, SUVs, or motorhomes and pulling larger trailers. The average size for a full size pickup is about 20 feet in length, motorhomes and travel trailers range in size from 20 to 40 feet in length, and utility trailers average between 10 to 20 feet in length. Because of the overall sizes of their vehicles when put together these recreational users require larger spaces to pull off the road and get turned around within. Additionally, recreationalists frequently visit in larger groups and this limitation would not allow for them to assemble as a group safely to the side of a route.

Alternative 3 Route Designation

Section 4.6.2 described the general impacts to recreation that are common to all alternatives. That analysis concluded that the size of the available transportation network, and the management restrictions placed on that network, can have both adverse and beneficial effects on recreation users. The mileage of routes available to the various different types of recreation users in the area under Alternative 3 is presented in Table 4.6-5.

Table 4.6-5. Alternative 3 - Miles of Routes which Support Recreation[1]

Resource Description	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Routes Designated for Activity				
ATV/UTV	111.3	0	0	2
Biking	2.2	19	0	7.9
Hiking	1.2	0	9.4	2.7
Horseback Riding	1	0	6.6	0.8
Motorcycling	145.3	0	0	0
OHV	10388.2	-	-	-
Miles of Routes for Access to Activity				
Cabin Site	41.3	0	0	14.9
Camping	625.5	6.6	0	199.6
Caving	29.5	0	0	4.1

Table 4.6-5. Alternative 3 - Miles of Routes which Support Recreation[1]

Resource Description	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Guzzler	83.9	0	0	15.5
Motorized Staging Area	112.3	0	0	25
Overlook	262.9	0	0	56
Rockhounding	1023.7	11	0	253.6
Target Shooting	144.9	1.3	0	35.5
Trailhead	29.1	0	0	7.8

[1] The sub-designation mileages are considered preliminary, and are likely to be revised prior to issuing the Final SEIS.

The analysis also concluded that safety hazards, including those associated with abandoned mining features, present an adverse impact to recreation. The mileage of routes located in close proximity to identified abandoned mine land hazards associated with Alternative 3 is presented in Table 4.6-6.

Table 4.6-6. Alternative 3 - Miles of Routes in Proximity to Safety Hazards

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Within 100 Feet of Abandoned Mine or Other Identified Safety Hazard	45.6	1.7	0.5	0.4	22.4

Alternative 3 increases the overall miles of designated routes by 5,089 from Alternative 1. Of the overall increase of designated routes from Alternative 1 to Alternative 3, 281 miles of these routes are designated for Authorized and Administrative Use only. This is an increase of 133 miles from Alternative 1. This results in an increase available to the casual public in the amount of 4808 miles. The miles available for use by non-street legal vehicles (ie. Quads, UTVs, and Dune buggies) is increased by 4654 miles from Alternative 1. Alternative 3 creates a 21 mile network of bicycle routes while Alternative 1 has 0 miles of routes specified for this type of use. Alternative 3 creates a 111 mile network of ATV/UTV routes, while Alternative 1 has 0 miles of routes specified for this type of use. Alternative 3 creates a 145 mile network of motorcycle routes, while Alternative 1 has only 38 miles of designated motorcycle routes. This is an increase of 107 miles designated for motorcycles.

The expansion of the route network is particularly large in the Jawbone Subregion. The change reflects the adoption of an enhanced trail system proposed through the area, and reflects the historic use of this area in conjunction with the adjacent OHV Open Area. The area is significantly impacted from the historic use, and the proposed network will be developed in

conjunction with the continuation of an intensive mitigation strategy underway for the Jawbone area.

Alternative 3 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 3. In general, these measures focus on resource protection, and therefore place restrictions on the development of new routes to support recreation. These restrictions include the one percent limit on allowable new ground disturbance in DWMAs, distance limitations on stopping and parking, and efforts to disguise and rehabilitate closed routes. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific impacts to recreation are considered before authorizing new motorized routes.

Intensively used and sensitive areas would be mitigated by site-specific strategies developed with current and future local non-profits and other partners to further travel management and ACEC resource protection implementation strategies.

4.6.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on recreation is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on recreation. However, this decision would make it easier for BLM to consider public and local agency interest in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on recreation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions to recreation under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. There are approximately 20-30 miles of designated C routes in each of these areas. These designated C routes were originally identified and approved for use in the Spangler Hills OHV Area Management Plan (1992). The terrain in these areas ranges from rolling hills to steep hills and sandy drainages. This topographic diversity and open space is extremely desirable to OHV enthusiasts providing technically challenging opportunities no matter what ones skill level maybe. Additionally, these additional miles of trails enhance the ability to lay out long distance OHV competitive events. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures. This alternative would provide a corridor that enhances organized vehicle riding opportunities within the Open Area.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2. The recreation impacts at Cuddeback, Coyote, and Chisholm Trail Lake lakebeds would be the same as those described for Alternative 3, which would also designate these lakebeds as open to motorized vehicles. This would result in a direct, beneficial impact by opening these three lakebeds to recreational uses.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. This would have an overall positive effect on recreational access to the area by expanding the availability of recreational opportunities within the WEMO planning area.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction to the allowed stopping, parking, and camping distance would have a significant effect on recreational use. Based on the assumption that routes are 12 feet wide (Table 4.1-1) the usable space for parking and camping is reduced down to 94 feet from the edge of the road once the 6 feet from center line is subtracted from the allowed 100 feet. The impact would be predominately affect those recreational users that camp or use vehicles and trailers to transport their equipment to a remote starting point to continue their recreational activities. These recreational users are frequently driving full size pickups, SUVs, or motorhomes and pulling larger trailers. The average size for a full size pickup is about 20 feet in length, motorhomes and travel trailers range in size from 20 to 40 feet in length, and utility trailers average between 10 to 20 feet in length. Because of the overall sizes of their vehicles when put together these recreational users require larger spaces to pull off the road and get turned around within. Additionally, recreationalists frequently visit in

larger groups and this limitation would not allow for them to assemble as a group safely to the side of a route.

Alternative 4 Route Designation

Section 4.6.2 described the general impacts to recreation that are common to all alternatives. That analysis concluded that the size of the available transportation network, and the management restrictions placed on that network, can have both adverse and beneficial effects on recreation users. The mileage of routes available to the various different types of recreation users in the area under Alternative 4 is presented in Table 4.6-7.

Table 4.6-7. Alternative 4 - Miles of Routes which Support Recreation

Resource Description	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Routes Designated for Activity				
ATV/UTV	137.1	0	0	0
Biking	0	62.5	0	0
Hiking	0	0	23.4	0
Horseback Riding	0	0	0	0
Motorcycling	120.6	0	0	0.3
OHV	5258.8	0	0	0
Miles of Routes for Access to Activity				
Cabin Site	31.1	0	0	25.2
Camping	567.9	16.5	2.4	233.9
Caving	24.6	2.7	0	6
Guzzler	70.2	0	0	28.9
Motorized Staging Area	107.2	0	0	31
Overlook	247.4	0	0	691
Rockhounding	601.5	35.7	3.6	646.7
Target Shooting	129.9	0	0.3	50.2
Trailhead	26.4	0	0	10.1

[1] The sub-designation mileages are considered preliminary, and are likely to be revised prior to issuing the Final SEIS.

The analysis also concluded that safety hazards, including those associated with abandoned mining features, present an adverse impact to recreation. The mileage of routes located in close proximity to identified abandoned mine land hazards associated with Alternative 4 is presented in Table 4.6-8.

Table 4.6-8. Alternative 4 - Miles of Routes in Proximity to Safety Hazards

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Mileage Within 100 Feet of Abandoned Mine or Other Identified Safety Hazard	22.8	0.8	0.3	0.1	45.5

Alternative 4 increases the overall miles of designated routes by 444 from Alternative 1. Of the overall increase of designated routes from Alternative 1 to Alternative 4, 238 miles of these routes are designated for Authorized and Administrative Use only. This is an increase of 90 miles from Alternative 1. This results in an increase available to the casual public in the amount of 354 miles. The miles available for use by non-street legal vehicles (ie. Quads, UTVs, and Dune buggies) is increased by 354 miles from Alternative 1. This is because Alternative 1 has 0 miles of routes designated for Street Legal Use only. Alternative 4 creates a 62 mile network of bicycle routes, while Alternative 1 has 0 miles of routes specified for this type of use. Alternative 4 creates a 137 mile network of ATV/UTV routes, while Alternative 1 has 0 miles of routes specified for this type of use. Alternative 4 creates a 120 mile network of motorcycle routes, while Alternative 1 has only 38 miles of designated motorcycle routes. This is an increase of 82 miles designated for motorcycles. Alternative 4 creates a 23 mile network of hiking routes while Alternative 1 has only 10 miles designated for such use. This is an increase of 13 miles designated for hiking.

Alternative 4 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 4. In general, these measures focus on resource protection, and therefore place restrictions on the development of new routes to support recreation. These restrictions include the one percent limit on allowable new ground disturbance in DWMAs, distance limitations on stopping and parking, and efforts to disguise and rehabilitate closed routes. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific impacts to recreation are considered before authorizing new motorized routes.

Intensively used and sensitive areas would be mitigated by site-specific strategies developed with current and future local non-profits and other partners to further travel management and ACEC resource protection implementation strategies.

4.7 Livestock Grazing

4.7.1 Introduction

Affected Environment Summary

Section 3.7 describes the livestock grazing that occurs in the West Mojave Planning Area. There are currently 27 grazing allotments (areas designated as suitable for grazing of domestic livestock in the CDCA Plan, as amended) on BLM land within the planning area, eight of which are vacant and inactive as shown on Table 3.7-1. The CDCA Plan identified 31 grazing allotments within the West Mojave Planning Area. As a result of the 2006 WEMO plan amendment and the 2012 Appropriations Act as shown in Table 3.7-2, seven of these of these allotments have been relinquished, or are currently not available for grazing, including the Pilot Knob Allotment.

Methodology

The 2005 WEMO EIS analyzed the impacts of the proposed action on grazing in the planning area. The document also evaluated changes in grazing to accomplish the purpose and need of the 2006 WEMO Plan Amendment, including the impact of grazing on biological resources. The Court's Summary Judgment Order did not address the impact of the route network or OHV use on grazing allotments. However, it did conclude that the EIS did not adequately evaluate the impact of grazing on soil resources, riparian areas, and UPAs. The Remedy Order indicated that, "On remand, the BLM will consider a host of factors, including grazing issues, in its alternatives analysis." The Remedy Order required that the WEMO Plan provisions for relinquishing grazing allotments remain in effect. In addition, BLM's decisions on grazing allotments that were made subsequent to the WEMO Plan, and that were based on separate Environmental Assessments, remain in effect through the EIS revisions. These decisions are to be reconsidered within six months following the Record of Decision for this SEIS.

For this SEIS for the WMRNP, BLM performed the following:

- The status of each of the grazing allotments in the planning area was updated, and this information is provided in Section 3.7. This information shows that many of the allotments have been relinquished. Those which have been renewed have been subject to additional NEPA analysis through Environmental Assessments.
- The route designation process for each alternative included evaluation of the location of each route with respect to grazing allotments and range improvements.
- The 2005 WEMO analysis was re-evaluated, and supplemented with additional information from resource specialists, public comments, and changes in conditions within the planning area. This additional information is incorporated into the evaluation in Section 4.7.2 below.
- The impacts of cumulative impacts of grazing, in combination with OHVs and other land uses, are addressed in Section 4.14. This includes an evaluation of grazing impacts on all resources, not just soil, riparian areas, and UPA resources.

4.7.2 Impacts Common to All Alternatives

This analysis addresses the impacts to livestock grazing activities from grazing alternatives and OHV management and use under the Travel Management Alternatives. A further discussion of impacts to grazing activities from other actions can be found in Section 4.14 Cumulative Impacts Analysis.

Under all alternatives, as a result of the adoption and implementation of the 2006 WEMO Plan, grazing is discontinued on three ephemeral sheep allotments, one ephemeral cattle operation, and the boundaries have been modified on four additional ephemeral sheep allotments. One cattle allotment has been voluntarily relinquished and its forage reallocated under the 2006 WEMO Plan. Utilization thresholds have also been reduced from 40% to as low as 25% on select key species allotment wide. There are two other grazing operational prescriptions contained in the 2006 WEMO Plan that are now in effect. These prescriptions eliminate authorization of the ephemeral portion of the perennial/ephemeral authorizations, and no longer provide for temporary non-renewable use authorizations, regardless of production. The 2006 WEMO grazing prescriptions also require exclusion from portions of select allotments when ephemeral production is less than 230 lbs/acre (non-DWMA) and 350 lbs/acre (DWMA) during those seasons. Finally, since the WEMO Plan, two other allotments are no longer available for grazing as a result of legislation. The direct impacts of these losses are the lost grazing opportunities for the individual grazers and reduction in available forage for livestock grazing.

The designated transportation network supports livestock grazing by providing access to the allotments, access to range improvements and developed springs, and means for transport of livestock into, out of, and between allotments. In general, a more extensive route network within an allotment would be considered to be beneficial to grazing, as it would give the lessee the largest range of options for accessing the allotment and transporting livestock and materials. A more restricted network within an allotment could be considered to be adverse, since it could potentially require a lessee to travel greater distances to conduct operations.

As shown in Tables 2.3-4 and 2.3-7, all routes that passed within 30 feet of a range improvement were determined to be necessary to support the operations of the grazing lessee, and were designated as motorized. Allowable uses and other limitations on these routes were determined on a case-by-case basis, depending on the presence of other resources in the area. While the specified limitations may occasionally limit the rancher's access to any given range improvement, these limitations are not expected to disrupt their operations, and so are not considered to be an adverse impact.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. In that analysis, livestock grazing impacts were considered as a criterion in determining which routes would remain open and which would be closed under the various alternatives. All routes that passed within 30 feet of a range improvement were determined to be necessary to support the operations of the grazing lessee, and were designated as motorized under all alternatives.

Details on the livestock grazing program summary (by alternative) are presented in Table 4.7-1.

Table 4.7-1. Livestock Grazing Program Summary by Alternative

Alternative	Grazing Acreage Re-Allocated (Lost)	Grazing Acreage Remaining
1: No Action	0	1,261,526
2: Conservation	191673	1,069,853
3: Access	301,219	960,307
4: Community	67,056	1,194,470

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4. For potential impacts to grazing allotments, these include:

- Install gates;
- Install fencing;
- Install Signs;
- Install barriers and maintain existing barriers;
- Construct or Install Educational information such as signs;
- Install tortoise friendly cattle guards; and
- Determination that no additional minimization and mitigation measure is needed based on site evaluation.

Residual Impacts After Implementation of Mitigation Measures

Only minor residual effects to grazing would be expected after application of mitigation measures. Motorized use of routes within grazing allotments, or near range improvements, are expected to have little or no impact on grazing operations. The route networks under each alternative were designed to ensure continued access to the allotments and range improvements by the operators, and the installation of gates, fencing, or signs is not expected to adversely impact their operations.

4.7.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these

decisions would not result in direct impacts to grazing. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider grazing and use other factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit grazing by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. Because these activities do not currently impact livestock grazing, the No Action alternative would have no direct or indirect impact on livestock grazing.

PA XI: Under this alternative, the livestock grazing program in the WEMO Planning area would include 25 active and inactive allotments within the WEMO Planning Area (see 2005 WEMO FEIS pages 2-126 to 2-128). The grazing program and practices would be as described in the 2006 WEMO Plan.

Grazing would continue on Ord, Cantil Common and Shadow Mountain active allotments without further changes. Grazing could occur on vacant inactive allotments, subject to NEPA analysis and consultations upon receipt of an application to graze, and, if grazing is approved, would be subject to the terms and conditions of the 2006 West Mojave Plan. This would include the Buckhorn Canyon, Harper Lake, Cronese Lake and Johnson Valley inactive allotments.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that the size of the available transportation network within an allotment can have beneficial or adverse impacts to the grazing operations of a lessee. Similarly, closure of routes that provide access to range improvements would present an adverse impact, if it occurred. The mileage of routes within active grazing allotments and the number of routes providing access to range improvements under the No Action Alternative are presented in Table 4.7-2.

Table 4.7-2. Alternative 1 - Acreage and Mileage of Routes in Proximity to Range Improvements

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Acreage and Mileage Within Active Grazing Allotments	1955.6	26.8	2883.5	93746	0	0.3	4301.1
Mileage of Routes Passing Within 30 Feet of Range Improvement	4.5	0	NA	NA	0	0	6.8

Alternative 1 Minimization and Mitigation Measures

Because no adverse impacts were identified for the No Action Alternative, no alternative-specific minimization and mitigation measures were developed to address impacts to livestock grazing.

4.7.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to grazing. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider grazing and other use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit grazing by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to grazing of each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to grazing. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1 that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts to grazing of these decisions under Alternative 2 are as follows:

PA VII: It is anticipated that the overall number of SRP applications will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process.

The proposed C Routes are within the currently permitted Cantil Common and Spangler Hills ephemeral sheep grazing allotments. Sheep grazing is authorized in the spring months when sufficient annual forage is present due to winter rains. Competitive events may authorize large numbers of vehicles traveling at a high rate of speed, which has the potential to increase OHV / livestock impacts within the allotments. Designating C routes in Alternative 2 would not impact any grazing allotments, as the seasonal restriction would limit competitive use to months outside of the potential season of use for ephemeral sheep grazing.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. This decision is not expected to have any beneficial or adverse impacts to grazing. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any effect on grazing by increasing the recreational use of routes in other areas.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. These lakebeds are not associated with grazing allotments or access to range improvements. Therefore, the closure of motorized access on Koehn lakebed would not have any impact on grazing. Because Koehn lakebed is currently receiving relatively light use, the amount of displaced use to other routes would be low. Therefore, this plan amendment decision is not expected to have an indirect, adverse impact on grazing by increasing the recreational use of routes in other areas.

PA IX: There would be no change to access to the Rand Mountains-Fremont Valley Management Area under Alternative 2. Because access in this area does not currently impact livestock grazing, Alternative 2 would have no direct or indirect impact on livestock grazing.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative is not expected to have any effect on motorized use of routes to support grazing operations, and would therefore not have any impact on grazing.

PA XI: Under this alternative, the livestock grazing program in the WEMO Planning area would include 23 active and inactive allotments within the WEMO Planning Area (see 2005 WEMO FEIS pages 2-126 to 2-128). Alternative 2 would discontinue livestock grazing in 191,673[1] acres, consistent with 43 CFR 4130.2(a), that are within DWMAs and CHUs and reallocate all of the approximately 4,224 Animal Unit Months (AUM, an expression of livestock stocking commitment based on forage) from livestock forage to wildlife use and ecosystem functions.

The cattle grazing operation on the Ord Mountain Allotment would be negatively impacted such that this grazing operation would no longer be considered economically viable. In addition to the loss of 86% of public land acres under this alternative and additional 10,880 acres have been lost to the expansion of the Marine Corps Air Ground Combat Center (MCAGCC) at 29 Palms.

The loss of 6,726 acres in the Fremont-Kramer DWMA and CHU on the Cantil Common Allotment may represent an inconvenience for the lessee but due to the large size of this allotment, substitute pasture would be available to the lessee that traditional used those loss acres.

Although use of 601 acres would be lost in the Shadow Mountain Allotment, this represents less than 1% of the allotment, and therefore would represent a minor additional hardship on the lessee.

Since the Harper Lake, Cronese Lake and Johnson Valley Allotments are vacant and inactive, there would no direct impact to any grazing operations from this loss. There would be an indirect impact to the livestock industry due to the lost opportunity for any future or additional grazing that could have occurred on these inactive allotments.

[1] This total does not include 10,880 acres lost as a result of the expansion of the 29 Palms Marine Base (MCAGACC).

Alternative 2 Route Designation

Section 4.7.2 described the general impacts to livestock grazing that are common to all alternatives. That analysis concluded that the size of the available transportation network within an allotment can have beneficial or adverse impacts to the operations of a lessee. Similarly, closure of routes that provide access to range improvements would present an adverse impact, if it occurred. The mileage of routes within grazing allotments, and the number of routes providing access to range improvements under Alternative 2, is presented in Table 4.7-3.

Table 4.7-3. Alternative 2 - Acreage and Mileage of Routes in Proximity to Range Improvements

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Acreage and Mileage Within Active Grazing Allotments	1442	176.6	2354.3	18448	14.2	26.2	4676.5
Mileage of Routes Passing Within 30 Feet of Range Improvement	4.2	0.7	NA	NA	0	0	6.4

Alternative 2 Minimization and Mitigation Measures

Because no adverse impacts were identified for Alternative 2, no alternative-specific minimization and mitigation measures were developed to address impacts to grazing allotments.

4.7.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on grazing is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping,

parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions to grazing under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. Designating C routes in Alternative 3 would impact both the Cantil Common and Spangler Hills Allotment. There is no seasonal restriction, and therefore collisions might occur. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known the impacts of those routes to grazing would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. These lakebeds are not associated with grazing allotments or access to range improvements, and therefore the change in access on the lakebeds would not have any beneficial or adverse impact on grazing.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. There are no grazing allotments present in this area. Therefore, eliminating the permit requirement would not have any impact on grazing.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction is not expected to have any effect on motorized use of routes to support grazing operations, and would therefore not have any impact on grazing.

PA XI: Under this alternative, the livestock grazing program in the WEMO Planning area would include 18 active and inactive allotments within the WEMO Planning Area (see 2005 WEMO FEIS pages 2-126 to 2-128). Alternative 3 would discontinue livestock grazing on currently inactive allotments, which include the Buckhorn Canyon, Harper lake, Cronese Lake, Cady Mountain, Johnson Valley, Double Mountain and Oak Creek Allotments, totaling 301,219 acres, consistent with 43 CFR 4130.2(a). There would be a reallocation of approximately 3,164 AUMs from livestock forage to wildlife use and ecosystem functions in these allotments.

This alternative would make grazing unavailable on seven currently vacant, inactive allotments within the WEMO Planning Area. There would no direct impact to any grazing operations from this loss because these allotments are vacant. There would be an indirect impact to the livestock industry due to the lost opportunity for any future or additional grazing that could have occurred on these inactive allotments.

Alternative 3 Route Designation

Section 4.7.2 described the general impacts to livestock grazing that are common to all alternatives. That analysis concluded that the size of the available transportation network within an allotment can have beneficial or adverse impacts to the operations of a lessee. Similarly, closure of routes that provide access to range improvements would present an adverse impact, if it occurred. The mileage of routes within grazing allotments, and the number of routes providing access to range improvements under Alternative 3, is presented in Table 4.7-4.

Table 4.7-4. Alternative 3 - Acreage and Mileage of Routes in Proximity to Range Improvements

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Acreage and Mileage Within Active Grazing Allotments	4372.2	70.9	6462.7	105056	49.6	22.4	1899
Mileage of Routes Passing Within 30 Feet of Range Improvement	11.1	0	NA	NA	0	0	0.8

Alternative 3 Minimization and Mitigation Measures

Because no adverse impacts were identified for Alternative 3, no alternative-specific minimization and mitigation measures were developed to address impacts to grazing allotments.

4.7.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on grazing is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local

agency interest in this area near Ridgecrest, and would therefore have no direct effect on grazing. However, this decision would make it easier for BLM to consider grazing impacts in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on grazing.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions to grazing under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. Designating these C Routes in Alternative 4 would impact both the Cantil Common and Spangler Hills Allotment. There is no seasonal restriction, and therefore collisions might occur. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. These lakebeds are not associated with grazing allotments or access to range improvements, and therefore the change in access on the lakebeds would not have any beneficial or adverse impact on grazing. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction is not expected to have any effect on motorized use of routes to support grazing operations, and would therefore not have any impact on grazing.

PA XI: Under this alternative, the livestock grazing program in the WEMO Planning area would include 23 active and inactive allotments within the WEMO Planning Area (see 2005 WEMO FEIS pages 2-126 to 2-128). Alternative 4 would discontinue livestock grazing on currently inactive allotments in DWMA and CHU, which includes a small portion of the Johnson Valley and the Harper Lake and Cronese Lake Allotments in their entirety, totaling 67,056 acres,

consistent with 43 CFR 4130.2(a). There would be a relocation of 1,100 AUMs from livestock forage to wildlife use and ecosystem functions.

Livestock grazing would be discontinued on three vacant, inactive allotments within DWMA and CHU in the WEMO Planning Area. There would no direct impact to any grazing operations from this loss because these allotments are vacant. There would be an indirect impact to the livestock industry due to the lost opportunity for any future or additional grazing that could have occurred on these inactive allotments.

Alternative 4 Route Designation

Section 4.7.2 described the general impacts to livestock grazing that are common to all alternatives. That analysis concluded that the size of the available transportation network within an allotment can have beneficial or adverse impacts to the operations of a grazing lessee. Similarly, closure of routes that provide access to range improvements would present an adverse impact, if it occurred. The mileage of routes within grazing allotments, and the number of routes providing access to range improvements under Alternative 4, is presented in Table 4.7-5.

Table 4.7-5. Alternative 4 - Acreage and Mileage of Routes in Proximity to Range Improvements

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Acreage Within Active Grazing Allotments	2209.8	41.1	3274	46572	50.2	5.8	4051.3
Mileage of Routes Passing Within 30 Feet of Range Improvement	3.8	0	NA	NA	0	0	7.5

Alternative 4 Minimization and Mitigation Measures

Because no adverse impacts were identified for Alternative 4, no alternative-specific minimization and mitigation measures were developed to address impacts to grazing allotments.

4.8 Energy Production, Utility Corridors, and Other Land Uses

4.8.1 Introduction

Affected Environment Summary

Section 3.8 describes the land uses in the planning area. Land uses authorized on public lands include a wide variety of industrial and commercial development, examples of which are pipelines, roads, transmission lines, commercial filming, small and large scale industrial sites, power facilities, mines, and communication sites.

Methodology

The 2005 WEMO EIS analyzed the impacts of the proposed action, including the 5,098 mile route network and OHV use, on access needs for other authorized land uses including mining, communications towers, transmission lines, and energy production. The Court's Summary Judgment and Remedy Orders did not specifically reach conclusions, or provide direction, regarding the sufficiency of this analysis.

For this SEIS for the WMRNP, BLM performed the following:

- The route designation process for each alternative included evaluation of potential user conflicts between authorized users and casual or recreational use.
- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, and changes in conditions within the planning area. This additional information is incorporated into the evaluation in Section 4.8.2 below.

4.8.2 Impacts Common to All Alternatives

The designated transportation network supports commercial land uses by providing access to support construction, maintenance, and operations. As shown in Tables 2.3-4 and 2.3-7, all motorized routes that have authorized access for a specific user were determined to be necessary to the operations of that user. The NEPA analysis that is the basis for minimization and mitigation measures, and appropriate consultation requirements is determined upon receipt of commercial proposals. Commercial users are encouraged, and may be required, to utilize access routes that are already available for use by the public, when the commercial use would not conflict with public use. Commercial users are required to compensate for (offset) loss of listed species habitat and to minimize impacts to sensitive resource values during any route upgrade or construction, and during maintenance and use, even if the routes are already within the open route network.

Allowable uses, design requirements, and other parameters on commercial routes are determined on a case-by-case basis, depending on the minimum requirements of the commercial user, the presence, sensitivity, and potential direct and indirect effects to other resources in the area, and the feasibility of avoidance strategies. The access route(s) and limitations that are specific to the operator, right-of-way holder, permittee or lessee are specified within the terms and conditions of the applicable plan of operations, grant, permit, or lease, if approved. Required design and minimization and mitigation measures are provided at the time of authorization. Generally

paving or hardening of routes is not required as a term of authorization unless they receive very frequent use or are used by large, heavy trucks. Upon authorization, routes that are already open to the public remain designated motorized-open. Routes that are not available to the public become designated as motorized-limited.

Due to the location of the West Mojave as a major connector between Southern California and other parts of California and Nevada, major commercial routes that have been authorized since the early 1930s now provide some of the primary OHV routes in the desert for other users. Commercial engineering and construction expertise has resulted in relatively well-maintained routes across long distances in the West Mojave. Routes associated with commercial uses generally include a standard reclamation measure that would include the access route, upon cessation of commercial operations. The extent of route reclamation is determined upon completion of commercial activities.

The route designations as proposed in all of the alternatives would have no effect on land acquisitions and disposals, as these actions would continue as identified in approved land use plans. When land is acquired, existing routes that service authorized land users would be added to the route network, with appropriate review of measures to minimize impacts to sensitive resources. The need for modifications or new designated routes would also be evaluated at the time of acquisition.

The alternatives would not affect valid existing rights of approved land use authorizations granted by the U.S. Government to specific parties. Authorized use of public lands is through the issuance of plans of operation, right-of-way grants, leases and permits. The route designation process does not affect existing authorized users, as they already have the permitted right of access that is subject to certain conditions to minimize damage to resources. As stated previously, all routes that have authorized access for a specific user were determined to be necessary to the operations of that user, and were designated as motorized. There are no anticipated impacts to existing authorized users of designated utility corridors.

Future authorized users would be directly affected, as their proposed use of public lands would be permitted through separate and independent analysis and decisions containing specific provisions for the protection of resources and minimization of impacts. These provisions generally provide for the use of the designated route system, where it is available, to minimize impact to BLM managed resource values. Future users may also be indirectly affected due to variable costs of doing business under the alternatives based on ease of access on an already designated route system. These costs are anticipated to be higher where there is not a designated route to a potential permit site, since construction of new routes result in greater impacts to one or more sensitive resources and therefore requires more design and/or mitigation to avoid or minimize impacts.

No substantial direct impacts to access to minerals (locatable, leasable or salable mineral construction-materials) or mineral development would result from the alternatives. There is no significant difference between any of the alternatives regarding vehicular access for mineral exploration. For all alternatives, vehicular access is available to at least the general area of existing mineral interest.

In areas with no designated routes, operators can obtain authorization for vehicular access through exploration (the exception is special circumstances such as wilderness). For example, access to mining claims and mineral deposits can be provided under an approved Plan of

Operations or Notice (43 CFR 3809.11), or to deposits of construction materials such as sand and gravel under a Free Use Permit or Contract for the Sale of Mineral Materials (43 CFR 3602). For all types of mineral development as with other commercial uses, higher costs are anticipated where no designated route exists to a site as a result of higher potential impacts and minimization requirements.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. In that analysis, existing authorizations for access to authorized land uses was considered in determining which routes would remain open for other uses and which would be closed under the various alternatives. Routes that are currently authorized for authorized land uses would be designated as motorized-limited or motorized-open. Motorized-limited routes may include seasonal or other restrictions for the purposes of future authorizations and renewals, but these restrictions are generally already included in the current authorizations as part of their terms and conditions. Therefore the impacts to commercial uses from the route designations are generally nominal.

Impacts from individual commercial uses vary widely. Impacts may be limited to minimal impacts to vegetation, or may result in substantial impacts to sensitive resources from major developments and associated access. Major authorizations often result, directly through the commercial uses, or indirectly through public use of the improved access, in substantial impacts to sensitive resources. The increased level of OHV access to the desert historically has been facilitated by railroads, energy development and transmission, and mining. This continues to be the case, on a more modest scale. The public use of authorized routes may, for example, may substantially increase compaction of soils and increase potential for dust from higher-levels of OHV use and faster rates of speed. The impacts of individual commercial authorizations and associated routes are analyzed in the specific NEPA documents pertaining to each access route or authorization. The associated impacts from these commercial authorizations in general are analyzed in each of the affected resource sections in this document.

There are no impacts to energy production, utility corridors, and/or other land uses from the grazing alternatives in PA XI; therefore, there is no further discussion of PA XI in this section.

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4. For potential conflicts resulting from multiple users, these include:

- Modify access to a less impacting designation;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Minimize overlapping uses by separating in time or space, or through a permitting mechanism;
- Add or identify alternative non-motorized or non-mechanized trail access;

- Construct or Install Educational information such as signs;
- Install step-over;
- Monitor the route for signs of increasing impacts to a sensitive resource; and
- Determine that no additional minimization and mitigation measure is needed based on site evaluation.

Residual Impacts After Implementation of Mitigation Measures

Only minor residual effects to other land uses would be expected after application of mitigation measures. Motorized use of routes associated with other land uses is expected to have little or no impact on the authorized users of those routes. The route networks under each alternative were designed to ensure continued access to these areas by the authorized users, and the potential mitigation measures are not expected to adversely impact their operations.

4.8.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to other authorized land uses. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider authorized land uses and other use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit other authorized land uses by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access

to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. Because these activities do not affect other land uses, the No Action alternative would have no direct or indirect impact on other land uses.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that none of the alternatives would have an effect on existing authorized users because they already have a permitted right of access that would not be affected by the WMRNP. Therefore, the mileage of motorized routes available to the authorized users is the same under all alternatives.

Access for future applicants would be considered as part of the overall evaluation of their application. In these evaluations, BLM would develop access alternatives and consider all resource impacts as required by 43 CFR 8342.1. This process may result in authorization of an access route that is longer, or more costly to construct and maintain, than would be desired by the applicant, and may therefore be considered to be an adverse impact to the applicant. However, the locations and extent of these impacts is speculative, and cannot be quantified at this time.

Alternative 1 Minimization and Mitigation Measures

Because no adverse impacts were identified for the No Action Alternative, no alternative-specific minimization and mitigation measures were developed to address impacts to energy, mineral, or other land uses.

4.8.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to other authorized land uses. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider other authorized land uses and other factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit other authorized land uses by facilitating adaptive management changes in response to changing on-

the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to other authorized land uses of each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to other authorized land uses. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions to other authorized land uses under Alternative 2 are as follows:

PA VII: It is anticipated that the overall number of SRP applications will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to other authorized land uses.

Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. Restricting the use to these months would not result in any impacts to other authorized users.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. Elimination of the Johnson Valley to Parker route would not result in any impacts to other authorized users. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this

competitive event route. Therefore, this plan amendment decision would not have any effect on other authorized land uses by increasing the recreational use of routes in other areas.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. These lakebeds are not associated with access to other authorized land uses. Therefore, the closure of motorized access on Koehn Lakebed would not have any impact on other authorized land uses. Because Koehn lakebed is currently receiving relatively light use, the amount of displaced use to other routes would be low. Therefore, this plan amendment decision is not expected to have an indirect, adverse impact on other authorized land uses by increasing the recreational use of routes in other areas.

PA IX: There would be no change to access to the Rand Mountains-Fremont Valley Management Area under Alternative 2. Because access in this area does not affect other land uses, Alternative 2 would have no direct or indirect impact on other land uses.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative is not expected to have any effect on motorized use of routes to support other authorized land uses, and would therefore not have any impact on land uses.

Alternative 2 Route Designation

Section 4.8.2 described the general impacts to energy, mineral, and other land uses that are common to all alternatives. That analysis concluded that none of the alternatives would have an effect on existing authorized users because they already have a permitted right of access that would not be affected by the WMRNP. Therefore, the mileage of motorized routes available to the authorized users is the same under all alternatives.

Access for future applicants would be considered as part of the overall evaluation of their application. In these evaluations, BLM would develop access alternatives and consider all resource impacts as required by 43 CFR 8342.1. This process may result in authorization of an access route that is longer, or more costly to construct and maintain, than would be desired by the applicant, and may therefore be considered to be an adverse impact to the applicant. However, the locations and extent of these impacts is speculative, and cannot be quantified at this time.

Alternative 2 Minimization and Mitigation Measures

Because no adverse impacts were identified for Alternative 2, no alternative-specific minimization and mitigation measures were developed to address impacts to energy, mineral, or other land users.

4.8.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on other authorized land uses is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions on other authorized land uses under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. The use of routes for competitive events is not expected to impact other authorized land uses. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known the impacts to other authorized land uses of those routes would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. These lakebeds are not associated with access to other authorized land uses, and therefore modification of motorized access on these lakebeds would not have any beneficial or adverse impact on those land uses.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. Elimination of the permit requirement for recreational users is not expected to result in a substantial increase in use of the route, and would therefore have no effect on authorized users of the route.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance

than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction is not expected to have any effect on motorized use of routes to support other authorized land uses, and would therefore not have any impact on land uses.

Alternative 3 Route Designation

Section 4.8.2 described the general impacts to energy, mineral, and other land uses that are common to all alternatives. That analysis concluded that none of the alternatives would have an effect on existing authorized users because they already have a permitted right of access that would not be affected by the WMRNP. Therefore, the mileage of motorized routes available to the authorized users is the same under all alternatives.

Access for future applicants would be considered as part of the overall evaluation of their application. In these evaluations, BLM would develop access alternatives and consider all resource impacts as required by 43 CFR 8342.1. This process may result in authorization of an access route that is longer, or more costly to construct and maintain, than would be desired by the applicant, and may therefore be considered to be an adverse impact to the applicant. However, the locations and extent of these impacts is speculative, and cannot be quantified at this time.

Alternative 3 Minimization and Mitigation Measures

Because no adverse impacts were identified for Alternative 3, no alternative-specific minimization and mitigation measures were developed to address impacts to energy, mineral, or other land users.

4.8.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on other authorized land uses is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on other authorized land uses. However, this decision would make it easier for BLM to consider impacts to other authorized land uses in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on these other land uses.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions on other authorized land uses under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures. The use of these routes would not result in any impacts to other authorized users.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. These lakebeds are not associated with access to other authorized land uses, and therefore modification of motorized access on these lakebeds would not have any beneficial or adverse impact on those land uses. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction is not expected to have any effect on motorized use of routes to support other authorized land uses, and would therefore not have any impact on land uses.

Alternative 4 Route Designation

Section 4.8.2 described the general impacts to energy, mineral, and other land uses that are common to all alternatives. That analysis concluded that none of the alternatives would have an effect on existing authorized users because they already have a permitted right of access that would not be affected by the WMRNP. Therefore, the mileage of motorized routes available to the authorized users is the same under all alternatives.

Access for future applicants would be considered as part of the overall evaluation of their application. In these evaluations, BLM would develop access alternatives and consider all resource impacts as required by 43 CFR 8342.1. This process may result in authorization of an access route that is longer, or more costly to construct and maintain, than would be desired by

the applicant, and may therefore be considered to be an adverse impact to the applicant. However, the locations and extent of these impacts is speculative, and cannot be quantified at this time.

Alternative 4 Minimization and Mitigation Measures

Because no adverse impacts were identified for Alternative 4, no alternative-specific minimization and mitigation measures were developed to address impacts to energy, mineral, or other land users.

4.9 Cultural Resources

4.9.1 Introduction

Affected Environment Summary

Section 3.9 describes the cultural resources in the West Mojave planning area. The area contains a wide range of cultural resources including habitation sites, temporary camps, rock shelters, caves, milling stations, lithic scatters, chipping circles, quarries, ceramic scatters, cemeteries, cremation features, rock alignments, geoglyphs, petroglyphs, pictographs, trails, roasting pits, cairns, isolated artifacts, mines, homesteads, historic campsites, historic roads, historic railroads, and historic trash scatters.

Sites in the planning area have been identified and managed in several ways. The baseline of the knowledge and understanding about cultural resources within the CDCA Planning Area comes from studies completed between 1969 and 1980 in support of the Plan. During the CDCA planning phase, approximately 179,200 acres were systematically inventoried using a variety of methods from stratified random sample surveys to intensive purposive surveys. As of January 1, 1980, there were an estimated 14,229 recorded cultural resources within the CDCA, which includes the WEMO Planning Area as well as the 16 million acres south of WEMO that are within the CDCA.

Although historic properties within the WEMO planning area are listed on the NRHP or CRHR, most cultural resources have not been evaluated for their significance or eligibility for listing in any formal roster of significant sites. The BLM field offices maintain paper records of all sites within their jurisdiction, as well as a statewide GIS geodatabase of sites and surveys in accordance with BLM policy for cultural resource record management. Some of the significant known cultural resources are also managed by BLM as Areas of Critical Environmental Concern (ACECs), with 17 ACECs within the planning area identified as being significant for their cultural resource values. The planning area is also the location of portions of the Old Spanish National Historic Trail and the Walker Pass National Historic Landmark, both designated by Congress. Many significant paleontological localities are found within the planning area.

Travel Management Area (TMA) boundaries are used below to quantitatively analyze impacts to cultural resources. These boundaries do not necessarily reflect meaningful cultural, historical, or tribal boundaries. The TMA unit of analysis allows for future review of cultural resources where management actions are proposed. It further protects the sensitive location of known cultural resources, as the analysis of differences between subregions within each TMA provides too detailed a discussion of the resources present. Where appropriate, qualitative discussions of observed anomalies and differences between TMAs are noted, particularly where current management practices that have resulted in more identification efforts may be skewing the number of reported resources.

Methodology

The 2005 WEMO EIS analyzed the cultural resource impacts associated with the 5,098 mile route network evaluated in that EIS. The 2005 WEMO EIS discussed that the route network was compared to known cultural sites and was adjusted to avoid them. The analysis concluded that designation of routes on or near cultural resources, and continued use of existing routes inside, near, or in the vicinity of cultural resources, could adversely impact those resources. The

analysis went on to conclude that the effect of BLM routes of travel on cultural resources could not be fully determined, because information needed to assess the effect was incomplete.

For this SEIS for the WMRNP, BLM performed the following:

- BLM developed an initial agreement with the California State Historic Preservation Office (SHPO) to update its knowledge of the existing environment of the planning area. The agreement called for field visit and site monitoring by the archaeologists of major sites in each subregion of the West Mojave, including all sites listed on the NRHP. The BLM has now determined that a Programmatic Agreement (PA) pursuant to 36 CFR 800.14 is the appropriate mechanism to address NHPA Section 106. The PA under development in consultation with SHPO, ACHP, tribal and interested parties to address current limits in information, including the development of a predictive model, level of additional inventory, additional consultations, and other measures to identify areas of higher sensitivity that may be affected by the transportation network. The PA and supporting treatment plans will include specific mitigation measures to address adverse impacts to cultural resources.
- BLM conducted field monitoring of 87 eligible and listed cultural resources within the planning area.
- BLM engaged two cultural resource field teams to conduct inventory to provide data for the analysis and for the predictive model, at substantial BLM expense.
- The route designation process for each alternative included evaluation of the location of each route with respect to known cultural resources was mapped in GIS.
- BLM conducted GIS-based route evaluation and quantified the miles of motorized routes that could potentially impact known cultural resources and the number of resources potentially impacted by motorized routes across four alternative route networks, ranging from 4,293 to 10,428 miles in size.
- BLM re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists and public comments. This additional information is incorporated into the evaluation in Section 4.9.2 below.

4.9.2 Impacts Common to All Alternatives

Impacts Common to All Alternatives - Route Designation

The route designation process has the potential to both impact and protect significant cultural resources, depending upon how cultural resources are considered in the criteria used to designate routes. A study of impacts to cultural resources in the California Desert, which was done in concert with preparation of the CDCA Plan, identified the combined effects of vehicle routes and activities in and on archaeological sites. It concluded that vandalism and looting, inadvertent and intentional, resulting from increased levels of access as the greatest impact and greatest threat to cultural resources in the California Desert (Lyneis et al. 1980). This study referenced similar studies in other states that reached the same conclusions. Since the CDCA inventory work of the 1970s and 1980s, the BLM has conducted 124 additional cultural resource inventories between 1989 and 2014 in response to OHV activity throughout the WEMO area. These inventories. cover approximately 24,320 acres of the planning area.

Motorized vehicle routes across or near archaeological sites affect those sites in various ways, depending upon the nature of the archaeological materials, the nature of the soils at the site and in the immediate vicinity, and the topography of the immediate area. Softer soils, and especially "midden" soils, are easily displaced by vehicle tires along with artifacts or other cultural materials that may be within or just below the surface of the route. Artifacts and the soil matrix in which they exist may be displaced both horizontally and vertically as vehicle tires move through the soil. Artifacts such as projectile points, flakes, beads, pottery and other thin items of stone, bone, shell, etc. may be broken or crushed by the weight of vehicles passing over them. Under some conditions, larger stone objects such as manos and metates may be cracked and broken by vehicles. Routes through historic sites may also displace or damage artifacts in the road or immediately adjacent to the route.

Subsurface features such as hearths or burials may be exposed either directly by vehicle use on the road, or indirectly by erosion channels created by vehicle use. Erosion of routes may indirectly affect sites that are off the route by increasing erosion in downstream areas. Vehicles passing each other or going wide to avoid ruts may gradually widen a route so that it cuts deeper into the portions of sites along the sides of routes. Effects may occur from the actions, both deliberate and inadvertent, of the occupants or operators of the vehicles, such as collection of artifacts or erosion as a result of the use of the route. Similar effects can also occur to cultural resources that fall within the corridor along routes in which stopping, parking, and camping are allowed, and the corridors along routes in which spectators are allowed to view the events.

In addition to impacts from use of the routes, BLM actions on the routes have the potential to impact cultural resources. Maintenance activities on routes that are designated as motorized have the potential to impact resources as a result of ground disturbance during maintenance activities. Similarly, rehabilitation and reclamation of routes that are designated as closed (transportation linear disturbances) involve ground disturbance. Implementation activities that may affect cultural resources include construction of fences or culverts, and placement of signs and kiosks.

Finally, use of motorized routes in areas of importance identified by tribes can indirectly impact the visual characteristics of the area, as well as introduce noise and dust sources that detract from culturally important values. In general, a greater mileage of routes within identified tribal areas would be considered an adverse impact to those values, while closure of routes in those areas would be considered beneficial. In some cases, a limited number of routes within these areas may be needed to provide continued access for Tribal members; in such cases, closures would be considered beneficial except to the point where they eliminate tribal access. These routes and areas of importance will be identified through the on-going tribal consultation process.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. Cultural resource impacts were considered in the development of alternative goals and objectives, in designation of individual routes, and in defining specific implementation parameters. The goals and objectives for Alternative 2 focus on enhancing sensitive resource values and areas, and managing access to de-emphasize casual multiple-use motorized and mechanized touring. In contrast, the goals and objectives for Alternative 3 focus on meeting the

diverse transportation, access, and recreational needs of the public, and managing access to emphasize casual multiple-use motorized and mechanized touring.

Cultural resource impacts were considered by evaluating individual route locations with respect to previously identified cultural resources and tribal areas currently mapped in a WEMO specific cultural resources Geographic Information Systems (GIS) geodatabase. GIS mapped route locations were analyzed with respect to resource locations, areas within 50 feet to 300 feet of identified resources, or within a tribal area. All routes were analyzed, regardless of proposed designation, and included consideration of stopping and parking distances from routes. Therefore, minimization of cultural resource impacts was a factor both in development of the alternative route networks and in the specific limitations placed on routes in those networks. These minimization and mitigation measures differ among the alternatives, and are therefore discussed in more detail in Sections 4.14.3, 4.14.4, 4.14.5, and 4.14.6 below.

The BLM has determined that off-highway travel is impacting known sites and is likely to be occurring in sites yet to be identified. Effects to historic and prehistoric resources observed during the 2013 monitoring program and in previous OHV specific inventories were determined to be associated with authorized and unauthorized travel. These effects include travel through properties located adjacent to routes; camping and the construction of fire ring features within historic and prehistoric resources; looting; "scrapping" of historic materials at sites accessible by road; and increased erosion and loss of vegetation as a result of vehicle use. The BLM anticipates that effects to historic properties resulting from the adoption and implementation of the WMRNP are likely to be similar and repetitive across the entire plan area, reflecting the impacts identified above.

NEPA and NHPA

In the Summary Judgment Order, the court found that the analysis of effects on cultural resources within the planning area had not been fully determined. In the 2005 FEIS, the BLM explained that route designation would be reviewed under the Section 106 process, and a programmatic approach to Section 106 was then being discussed with the California State Office of Historic Preservation. The Section 106 process was not concluded before the ROD for the 2006 WEMO amendment was approved. The court determined that the FEIS was adequate to the extent the effect BLM routes of travel on public land cultural resources had been fully determined. To the extent the effect of travel on cultural resources had not been fully determined, the FEIS was inadequate.

BLM acknowledges that the current WMRNP will adversely affect cultural resources and believes it has enough information to date to define the effects of the plan on cultural resources on a programmatic land use planning basis. However, BLM is developing a PA that will specify how individual effects, once they are identified, will be addressed. The level of identification necessary to identify individual effects is being determined in consultation with SHPO and the ACHP. The level of identification will take into account the results of cultural resource sensitivity modelling efforts described above, field information being collected by BLM cultural resource crews currently in the field and derived from existing cultural resource inventories and records, BLM cultural resource and travel management policy, and a systematic interpretation of a hierarchy of routes in the WEMO plan area. This hierarchy of routes may include newly designated open routes, existing rights-of-way, previously designated routes, and closed routes.

This phased approach, developed through consultation with consulting parties, once agreed upon by these three agencies, will be presented in the PA.

By regulation agencies are authorized to use a phased approach where alternatives under consideration consist of large land areas, (43 CFR 800.4(b)(2)). An agency official may defer final identification and evaluation of historic properties if specifically provided for in a Programmatic Agreement (PA) (among other things) executed pursuant to 43 CFR 800.14(b). Id. A PA may be used when effects on historic properties are similar and repetitive, regional in scope, when effects on historic properties cannot be fully determined prior to approval of an undertaking, or in other situations. Id.

The use of a PA under Section 106 addresses the identification and data considerations reflected in 36 CFR 800.4(b) and 40 CFR 1502.22. The use of a phased approach to identify and evaluate historic properties within the WEMO Planning Area will involve a combination of class inventories coupled with other identification efforts, both known and to be determined (as indicated above). The details of the phased approach to identification and evaluation of cultural resources for the planning area are currently being negotiated through consultation and development of the PA.

BLM policy for travel management and cultural resources indicates that historical property inventory requirements will vary depending on the quality of existing information, the extent of potential change of OHV use, the expected density and nature of historic properties, and the potential effects of OHV use designation. See BLM Instruction Memorandum (IM) 2012-067, *Clarification of Cultural Resource Considerations for Off-Highway Vehicle Designations and Travel Management*. "Designations of new routes or areas, or new localities where concentrated OHV use may occur have the potential to cause effects to historic properties. Historic properties in the APE must be identified and any potential adverse effects must be resolved prior to designation. Appropriate inventory of the APE and tribal consultation should be conducted prior to authorizing use of new locations proposed as staging areas or similar areas of concentrated OHV use. For those areas with limited cultural resource information, a phased inventory approach, developed in consultation with the SHPO, may be appropriate in order to allow continued use of an existing route network or to retain an open area, if those areas have not previously been inventoried. For instance, a Class II inventory, or development and field testing of a cultural resources probability model, followed by Class III inventory in high potential areas and for specific development projects should be considered for larger planning areas for which limited information is currently available." Id.

"Known sites and sensitive resource areas may be protected through rerouting, reconstruction, new construction, limitations on vehicle type and time or season of travel, or closure. If the BLM determines that a designation has the potential to adversely affect a known historic property, it will consult with the SHPO, Indian tribes, and other interested parties on measures to avoid, minimize or mitigate the adverse effect according to the BLM PA and applicable State protocol or 36 CFR Part 800 regulations." Id.

Likewise, BLM IM 2012-067 provides guidance for closure of routes or areas. "Proposed designations that: (1) impose new limitations on an existing route; (2) close an open route or area; or (3) keep an area closed will not typically have an effect on historic resources in the APE, but have the potential to cause effects if the decision results in a shift, concentration, or expansion of travel onto other existing routes or into areas that are likely to have historic

properties. Where there is a reasonable expectation that a proposed designation will shift, concentrate or expand travel into areas where historic properties are likely to be adversely affected, Class II or Class III inventory focused on areas where adverse effects are likely to occur is recommended prior to designation." Id.

Under 40 CFR 1502.22, when an agency evaluates a reasonably foreseeable significant adverse environmental effect and there is incomplete or unavailable information, the agency is required to make clear the information is lacking. If the cost of obtaining the information is not exorbitant, the agency is directed to secure and include the information in the environmental document. Id. If the information cannot be obtained because the overall cost of obtaining it is exorbitant or the means to obtain it are not known, the agency must include a statement that 1) the information is incomplete or unavailable, 2) the relevance of the incomplete or unavailable information to evaluate the reasonably foreseeable significant adverse effects on the environment, 3) a summary of the existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse effects on the environment, and 4) the agency's evaluation of impact based upon theoretical approaches or research methods are generally accepted in the scientific community. Id.

Section 106 does not require a complete Class III inventory of historic properties in any given resource area. Section 106 requires an agency make a reasonable and good faith effort to carry out appropriate identification efforts. 36 CFR 800.4. These efforts may include background research, consultation, oral history interviews, sample field investigation and field survey, the taking into consideration past planning, research and studies, the nature and magnitude of the undertaking, the nature and extent of the potential effect, and the likely nature and location of historic properties within the area of potential effect. Id. The reasonable and good faith effort is determined through consultation with the ACHP and SHPO.

This Section 106 approach resolves the identification and data deficiencies concerns for 36 CFR 800.4(b) and 43 CFR 8342.1 by using a phased approach to identification of historic properties that involves more than a Class I Inventory but less than a Class III Inventory. The details of the phased approach of identification of cultural resources for the WEMO plan area are being negotiated through consultation and development of the PA under 36 CFR 800.4(b)(2). This process is fully compliant with the requirements of NHPA, NEPA and is consistent with more recent BLM policy guidance for TMPs. As indicated in *NEPA and NHPA, A Handbook for Integrating NEPA and Section 106, CEQ and ACHP, March 2013*, the Council on Environmental Quality (CEQ) and the ACHP encourage coordination of the requirements of NEPA and the NHPA. Both laws authorize the use of alternative procedures, include information gathering, the evaluation of potential effects of the proposed action on historic properties, consideration of strategies that may avoid or minimize the potential for adverse effects, and require the process to be completed prior to a Federal decision.

Important distinctions exist however between the NEPA and NHPA Section 106 reviews in terms of the types, scope, and geographical area of environmental review procedures, the nature of public engagement and tribal consultation, level and specificity of information requirements, procedures for developing alternatives, documentation, and timing.

- Both NEPA and Section 106 require agencies to identify cultural or historic properties; Section 106 specifically requires an agency make a reasonable and good faith effort to identify cultural or historic properties. For this planning project, this effort includes the

additional field surveys, ongoing modelling of cultural areas, and a PA, taken into consideration along with existing information.

- The NEPA scope of the affected environment is broader in this document since it includes cultural and tribal values beyond historic properties and sites.
- NEPA informational needs vary and are reflective of the type and nature of decisions to be made. The broad planning decisions to be made in this document are evaluated programmatically; Section 106 informational needs are tailored to the scope of the action, and as such, would apply to the broad areas in this planning project (e.g., ACECs, riparian areas, grazing availability, areas with concentrations of minority populations, etc). Plan level impact will be addressed, but not necessarily resolved prior to approval of the ROD for the plan amendment decision.
- The project activity-level decisions (specific route designations and strategies based on Travel Management Areas through Travel Management Plans) are considered in the context of information for the particular area affected by each route and its stopping, parking, and camping zone. Coordination of the planning and implementation processes allows for consideration of information gathered through each process into the range of alternatives, and accommodates potential changes to those alternatives as the processes proceed. Project level impact will not be addressed until project level decisions are reached.
- The NEPA process requires analysis of all reasonable alternatives and identification of a preferred alternative at the Draft EIS stage, with limited exceptions. The Section 106 process does not require identification and evaluation of historic properties for all NEPA alternatives, rather the Section 106 process allows for identification and evaluation of historic properties as the alternatives are refined.
- Section 106 may require additional identification of historic resources as part of an effort to develop and evaluate alternatives to the proposed undertaking to avoid or mitigate adverse effects. For this planning effort, the BLM has established a schedule and specifications for a model to include surveys to identify potential historic properties and identify specific geographic areas where such surveys should occur.
- A Section 106 PA is a flexible tool that fits within the adaptive management dynamic of travel management and establishes a process for concluding future consultation and considering effects to historic properties.

The BLM will resolve adverse effects to historic properties through measures that are memorialized in the signed Section 106 PA and the NEPA ROD. The NEPA document includes the monitoring, compliance, and tracking mechanisms for these measures.

The use of a PA fully comports with the information and evaluation requirements of the NHPA and NEPA and is consistent with more recent BLM policy guidance for travel management planning. The BLM will complete the PA prior to the Record of Decision for the land use plan amendment; however, complete identification of historic properties, assessment of effects, and resolution of effects will not be completed prior to the WMRNP Record of Decision. Route and area specific effects will be addressed by the BLM in accordance with the process identified in the PA.

Impacts Common to All Alternatives – Livestock Grazing

The decision to authorize grazing and the associated issuance of a grazing permit within a specific allotment do not have the potential to impact cultural resources. However, the implementation of a grazing permit, including the release of livestock into an allotment and the construction of range improvement features to facilitate grazing, may impact cultural resources. Impacts to cultural resources from livestock grazing are analyzed on a case-by-case, permit-by-permit basis. The BLM California utilizes the Supplement (See Chapter 1.7) in addressing livestock grazing authorizations.

Impacts from livestock grazing vary depending on the intensity of use of a specific location. The behavioral patterns of livestock indicate tendencies to trail along liner features, such as fencelines, to rub on permanent features, such as rock outcrops, and to congregate near necessary resources, such as watering locations and supplemental mineral sites. Previous research conducted by BLM archaeologists (Halford 1999) focusing on impacts to cultural resources identified patterns expected from grazing activities. These may include disturbance to the horizontal distribution of artifacts on the ground surface and vertical migration of materials below the ground surface. In both instances, the specific patterning and arrangement of cultural materials, a critical component of identifying the patterns of behavior in prehistoric and historic humans, may be obscured, erroneously rearranged, or removed all together. The vertical migration of materials may move artifacts across stratigraphic units and cause the mixing of deposits; thus the stratigraphic integrity of separate occupational periods may be compromised. Trodden, artifacts can undergo several types of damage, including breakage, microchipping and abrasion (Nielson 1991:483-484). Cumulative grazing activity where cultural resources are located can cause impacts to spatial, chronological and functional information, creating the potential for erroneous temporal, spatial and functional interpretations. This may ultimately result in diminished integrity of a site, which may adversely affect its potential to meet National Register criteria.

To address impacts to cultural resources from grazing decisions, the BLM California Supplement institutes a cultural resource site monitoring protocol and standard protective measures to be implemented in the event a cultural resources is being impacted by grazing activities. These standard protective measures include:

- Fencing or exclosure of livestock from the cultural resource sufficient to ensure long-term protection, according to the following specifications:
  - the area within the exclosure must be inventoried to locate and record all cultural resources; and
  - the exclosure (i.e.) fence must not divide a cultural resource so that a portion is outside of the fence; and
  - the cultural resource specialist will determine the appropriate buffer to be provided between the cultural resource and its exclosing fence.
- Relocation of livestock management facilities / improvements at a distance from cultural resources sufficient to ensure their protection from concentrated grazing use.

- Removal of natural attractants of livestock to a cultural resource when such removal, in the judgment of the cultural resource specialist, will create no disturbance to the cultural resource (e.g. removing vegetation that is providing shade).
- Removal of the area(s) containing cultural resources from the allotment.
- Livestock herding away from cultural resource sites.
- Use salting and/or dust bags or dippers placement as a tool to move concentrations of cattle away from cultural sites.
- Locating sheep bedding grounds away from known cultural resource sites.
- Other protective measures established in consultation with and accepted by SHPO.

Resource-Specific Minimization and Mitigation Measures

Specific mitigation measures will be applied and implemented based on the Cultural Resources Programmatic Agreement for WEMO, and the associated Management Plans developed in consultation with OHP, ACHP, tribal and agency partners. Measures identified by BLM, which may be included within the Management Plans, include but are not limited to:

- Modify access to a less impacting designation;
- Install access type restrictor;
- Re-align route to avoid environmentally sensitive area;
- Restrict stopping/parking/camping;
- Install barriers and maintain or upgrade existing barriers;
- Prohibit Special Recreation Permit use;
- Remove Attractants;
- Construct and/or Install Educational information such as signs or kiosks;
- Install step-overs;
- Narrow route for cultural concerns;
- Fencing or exclosure of a cultural resource;
- Monitor the route for signs of increasing impacts to a sensitive area;
- Determine that no additional minimization and mitigation measure is needed based on feature or site evaluation pursuant to 36 CFR 60; and
- Determine that no additional minimization and mitigiation measure is needed based on field identification (i.e ground truthing of GIS data indicates no resource is present, no resources are impacted or existing minimization and mitigation is adequate).

Residual Impacts After Implementation of Mitigation Measures

Residual effects to cultural resource could continue after application of mitigation measures. Although impacts would be reduced from those that would have existed without mitigation

measures, motorized vehicles and livestock may still enter undisturbed areas and adversely impact unidentified resources.

4.9.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to cultural resources. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider cultural resources and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit cultural resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program.

Changes to motorized vehicle use in the locations specified in these decisions under the action alternatives do have the potential to affect cultural resources, if such resources exist in those locations. Competitive event routes that have not been subject to cultural resource inventories require Section 106 review prior to the authorization of use. Cultural resource inventories have not been completed for the proposed C routes north of the Navy Road. Resource values recorded in the immediate vicinity of these routes include the historic Trona Railroad Camp, lithic quarries and habitation complexes associated with the prehistoric use of Searles Lake. As yet unidentified cultural resources may be within or adjacent to the routes and may be impacted by the increased use of the routes by vehicles and spectators as described in the impacts common to

all alternatives. Impacts may still occur to cultural resources as a result of motor vehicle use in these areas on remaining available routes, despite adopted measures, including fencing, oversight, and measures to increase public information prior to use of routes in the Rand-Fremont area.

Under the No Action Alternative, livestock grazing would continue under the terms and conditions contained in the Final Grazing Decisions issued for active grazing allotments within the West Mojave Planning Area. Table 4.9-1 provides the total number of resources per allotment that may be impacted by livestock grazing.

Table 4.9-1: Alternative 1 - Cultural Resources within Grazing Allotments

Allotment	Total Sites
Antelope Valley	14
Bissell	46
Boron Sheep	111
Buckhorn Canyon	25
Cady Mountain	299
Cantil Common	812
Cronese Lake	250
Darwin	3
Double Mountain	0
Gravel Hills	130
Hansen Common	232
Harper Lake	42
Johnson Valley	71
Kelso Peak	0
Lacey-Cactus-McCloud	282
Lava Mountain	65
Monolith Cantil	21
Oak Creek	7
Olancha Common	57
Ord Mountain	65
Pilot Knob	25
Rattlesnake Canyon	7
Round Mountain	52
Rudnick Common	461
Shadow Mountains	227
Spangler Hills	136
Stoddard Mountain	718
Superior Valley	135
Tunawee	408

Table 4.9-1: Alternative 1 - Cultural Resources within Grazing Allotments

Allotment	Total Sites
Valley Well	1
Walker Pass Common	169
Warren	12

The relinquishment of the Lava Mountain and Walker Pass Common Allotments would eliminate potential impacts from livestock grazing to 65 and 169 previously identified cultural resources, respectively.

The Lava Mountain Allotment is completely within the Grass Valley Wilderness Area. Cultural resources within the wilderness area are protected from surface disturbance from proposed development, off-highway vehicle use, and other activities permissible on public lands that have potential to impact cultural resources. The relinquishment of this allotment provides additional protection from impacts to the approximately 56 prehistoric resources, one historic resource, and 8 resources of unknown temporal designation.

The Walker Pass Common Allotment is located along the base of the Sierra Nevada Mountains, and includes portions of the, Kiavah, Owens Peak and Sacatar Trail Wilderness Areas. It also includes the Walker Pass National Historic Landmark. Cultural resources within this allotment include approximately 88 prehistoric resources, 47 historic resources, 19 multiple component resources, and 15 resources of unknown temporal designation.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that motorized vehicles can have direct adverse impacts to cultural resources, as well as indirect impacts to visual, noise, and other values important in tribal areas. Direct impacts to physical resources would likely only occur due to actual contact with motorized vehicles, or by ground disturbance associated with vehicle use, route maintenance, or route reclamation. Therefore, the level of direct impacts tends to be associated with proximity to the resource. The mileage of routes in close proximity to identified cultural resources under the No Action Alternative is presented in Table 4.9-2, and the number of currently known sites which may be affected by routes is presented in Table 4.9-3. Indirect impacts in tribal areas are less closely associated with distance between the route and locations of physical resources, but are proportional to the density of motorized routes within each tribal area.

Table 4.9-2. Alternative 1 - Miles of Routes in Proximity to Cultural Resources

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Within a Known Site	372.6	6.2	0	0	360.9
Within 0-50 Feet of a Site	107.8	0.4	0	0	131.4
Within 50-100 Feet of a Site	88.3	0.5	0	0	117.7

Table 4.9-2. Alternative 1 - Miles of Routes in Proximity to Cultural Resources

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Within 100-300 Feet of a Site	362.2	4.1	0	0	697.4

Table 4.9-3. Alternative 1 – Number of Properties in Proximity to Routes

Resource Description	TMA	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Known Sites Intersected by a Route	1	69	0	0	75
	2	142	0	0	209
	3	59	0	0	70
	4	75	0	0	135
	5	128	0	0	131
	6	45	0	0	58
	7	126	0	0	263
	8	55	0	0	69
Known Sites Within 0-50 Feet of a Route	1	92	0	0	94
	2	192	0	0	262
	3	80	0	0	91
	4	104	0	0	190
	5	167	0	0	173
	6	63	0	0	82
	7	169	0	0	344
	8	83	0	0	93
Known Sites Within 50-100 Feet of a Route	1	75	0	0	69
	2	165	0	0	227
	3	46	0	0	44
	4	91	0	0	164
Known Sites Within 50-100 Feet of a Route (continued)	5	139	0	0	129
	6	56	0	0	53
	7	144	0	0	335
	8	55	0	0	56
Known Sites Within 100-300 Feet of a Route	1	127	0	0	112
	2	238	0	0	317
	3	98	0	0	86
	4	142	0	0	245
	5	203	0	0	221
	6	83	0	0	86
	7	240	0	0	495

Table 4.9-3. Alternative 1 – Number of Properties in Proximity to Routes

Resource Description	TMA	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
	8	88	0	0	118
Known Sites Within DWMA and within 0-50 Feet of a Route	1	0	0	0	0
	2	0	0	0	0
	3	11	0	0	8
	4	0	0	0	1
	5	144	0	0	140
	6	51	0	0	42
	7	51	0	0	91
	8	48	0	0	43

The No Action Alternative currently allows for stopping and parking within 300 feet of a route outside of DWMAs. In TMAs 2, 5, and 7, this distance is especially notable for the high number of resources potentially impacted within 300 feet of motorized routes, and in TMAs 4, 6 and 8 for the comparably lower numbers.

TMA 2 includes approximately 1,137 previously recorded sites as noted in Table 4.9-3, 595 of which occur within 300 feet of a motorized route. This high density is due in part to current management of the area, which has resulted in more intensive cultural resource inventory occurring within major transmission and highway corridors, the Los Angeles Aqueducts rights-of-way, the Haiwee and Coso Geothermal Areas, and the mineral operations on Searles Lake. This TMA also includes one National Register Listed District, two ACECs designated for cultural resource values, and the values associated with the Coso Rock Art District and Coso Mountain obsidian sources located on China Lake Naval Air Weapons Station. The number of sites previously recorded and the limited amount of inventory completed in this area outside of major rights-of-way indicate this TMA has a high potential for as yet recorded sites.

TMA 5 includes approximately 1,212 previously recorded sites, 509 which occur within 300 feet of a motorized route. This area includes two National Register Listed Districts, and three ACECs designated for cultural resource values. This TMA also includes several intensively inventoried areas because of major transmission and highway corridors, and renewable energy development areas. Portions of this TMA are within the Superior-Cronese and the Fremont-Kramer Desert Wildlife Management Areas (DWMAs), and likewise the majority of sites in proximity to routes are located within the DWMAs. While the number of sites within 300 feet of routes is proportionally higher than other TMAs, the stopping and parking distance from the centerline of a route in DWMA is 50 feet. Therefore, the total number of previously recorded sites within 50 feet of routes in the DWMA portions of this TMA is approximately 144.

TMA 7 includes approximately 1,217 previously recorded sites, 553 of which occur within 300 feet of a motorized route. This high density is due in part to intensive cultural resource inventory associated with the recreation restoration and improvement efforts in the Rand Mountains, El Paso Mountains, and Ridgecrest areas, highway and transmission corridors, small-scale mining operations, and Abandoned Mine Lands remediation activities. The TMA also includes three

National Register Listed Districts and five ACECs designated for cultural resource values. The Fremont-Kramer and Superior-Cronese (DWMA) are located within portions of this TMA. For the DWMA portions, only 51 previously records sites are located within 50 feet of a motorized route. The majority of sites identified within this TMA are located outside of the DWMAs and are still within the 300 foot corridor of motorized routes.

TMAs 4, 6, and 8 each contain the highest number of previously recorded resources (n=1745, 1469, and 1361, respectively), but analysis indicates the least amount of sites within 300 feet of routes (n = 337, 202, and 226, respectively). This is due in part to discrepancies in mapping of the on-the-ground routes, including existing rights-of-ways in TMA 4 and the highly developed portions of TMA 4 and TMA 8 near the urban communities of Lancaster and Victorville. The Dove Springs, Jawbone Canyon, Johnson Valley, El Mirage, and Stoddard Valley OHV open areas also occur within these TMAs. Cultural resources have been identified within these areas, but are not directly associated with specifically mapped routes as part of the WEMO analysis. The Fremont-Kramer, Superior-Cronese, and the Ord-Rodman DWMAs are located within portions of these TMAs. Sites within the DWMAs are further protected by the 50 feet of centerline rule for stopping and parking.

While numbers of sites within 300 feet of closed routes (transportation linear disturbances) are also notably high in several TMAs, the management decisions for transportation linear disturbances are more likely to protect cultural resource values, either through hard closures or signing.

Alternative 1 Minimization and Mitigation Measures

Table 2.3-1 describes the network-wide minimization and mitigation measures that are currently specified in the CDCA Plan, WEMO Plan, and/or the Court's Remedy Order, and which are therefore applicable under Alternative 1, the No Action Alternative. Whether they were applied during the route designation process or are mitigation measures, these measures act to reduce impacts to cultural resources. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs would reduce the potential for damage to unidentified cultural resources adjacent to routes, as compared to pre-2006 conditions before these limitations were enacted. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific cultural resource impacts are considered before authorizing new motorized routes.

4.9.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to cultural resources. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider cultural resource and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit cultural resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The cultural resource impacts of each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to cultural resources. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The cultural resources impacts of these decisions under Alternative 2 are as follows:

PA VII: Competitive events may authorize large numbers of vehicles using a particular route and encourage the use of areas adjacent to routes by spectators. Cultural resources that occur within routes or immediately adjacent to routes may be subject to impacts in various ways, depending on the nature of the cultural resources present, the nature of the soils at the site and in the immediate vicinity, and the topography of the immediate area.

It is anticipated that the overall number of SRP applications will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these

routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to cultural resources. Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. Competitive event routes that have not been subject to cultural resource inventories will require Section 106 review prior to the authorization of use. Cultural resource inventories have not been completed for the routes north of the Navy Road. Resource values recorded in the immediate vicinity of these routes include the NRHP listed historic Trona Railroad Camp, lithic quarries and habitation complexes associated with the prehistoric use of Searles Lake. As yet unidentified cultural resources may be within or adjacent to the routes and may be impacted by the increased use of the routes by vehicles and spectators as described in the impacts common to all alternatives.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. The elimination of the Johnson Valley to Parker event may reduce impacts to cultural resources in that area. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment is not anticipated to have an adverse impact on cultural resources.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. The lakebeds may be associated with known or unknown cultural resources. Therefore, the closure of Koehn lakebed could have a minor direct, beneficial effect on cultural resources associated with the lakebed. The use of this lakebed is not substantial, and the users of Koehn lakebed are not expected to substantially increase use of other routes and areas within the planning area for recreation. Use of the other three lakebeds is not anticipated to change under this alternative. Therefore, this plan amendment is not anticipated to have an adverse impact on cultural resources.

PA IX: There would be no change to access to the Rand Mountains-Fremont Valley Management Area under Alternative 2. Maintaining the current permit program as described in WEMO 2006 will have no change in the anticipated impacts to cultural resources from currently authorized OHV travel routes, as described under the No Action alternative.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative would reduce the potential for motorized vehicle use to impact cultural resources in those areas. The effect of these actions would be a net beneficial impact on cultural resources.

PA XI: Under Alternative 2, livestock grazing levels would continue to be managed to the level currently allowable in WEMO for all allotments outside of DWMAs. For allotments within

DWMA, all livestock grazing would be discontinued in five grazing allotments, consistent with 43 CFR 4130.2 (a). This includes portions of the Ord Mountain, Cantil Common, Shadow Mountain Allotments, a small portion of the Johnson Valley Allotment and the entire Harper Lake and Cronese Lake Allotments.

Table 4.9-4 provides a summary of total sites by allotment, with specific summary of the total number of sites within allotments where elimination of grazing within DWMAs is proposed.

Table 4.9-4: Alternative 2 – Sites within Allotments and within areas proposed for grazing changes

Allotment	Sites Within Areas where Grazing Discontinued	Total Sites
Antelope Valley		14
Bissell		46
Boron Sheep		111
Buckhorn Canyon		25
Cady Mountain		299
Cantil Common	30	812
Cronese Lake	250	250
Double Mountain		0
Hansen Common		232
Harper Lake	42	42
Johnson Valley		71
Kelso Peak		0
Lacey-Cactus-McCloud		282
Monolith Cantil		21
Oak Creek		7
Olancha Common		57
Ord Mountain	65	65
Pilot Knob		25
Rattlesnake Canyon		7
Round Mountain		52
Rudnick Common		461
Shadow Mountains	102	227
Spangler Hills		136
Stoddard Mountain		718
Tunawee		408
Valley Well		1
Warren		12

The discontinuation of grazing within DWMAs will eliminate the potential for impacts to a large number of cultural resources. In Ord Mountain, Cronese Lake, and Harper Lake allotments, all

previously sites identified in these areas will be protected from impacts associated with livestock grazing. This will include values associated with Cronese Basin, Rodman Mountains, and Black Mountains. Discontinuing grazing in Shadow Mountain, Cantil Common, and Buckhorn Canyon will eliminate impacts to approximately 139 additional cultural resources.

Alternative 2 Route Designation

Section 4.9.2 described the general impacts to cultural resources that are common to all alternatives. That analysis concluded that motorized vehicles can have direct adverse impacts to cultural resources, as well as indirect impacts to visual, noise, and other values important in tribal areas. Direct impacts to physical resources would likely only occur due to actual contact with motorized vehicles, or by ground disturbance associated with vehicle use, route maintenance, or route reclamation. Therefore, the level of direct impacts tends to be associated with proximity to the resource. The mileage of routes in close proximity to identified cultural resources under Alternative 2 is presented in Table 4.9-5, and the number of sites which may be affected by routes is presented in Table 4.9-6. Indirect impacts in tribal areas are less closely associated with distance between the route and locations of physical resources, but are proportional to the density of motorized routes within each tribal area.

Table 4.9-5. Alternative 2 - Miles of Routes in Proximity to Cultural Resources

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Within a Known Site	217.8	55	10	0.2	458.3
Within 0-50 Feet of a Site	75.9	22.9	0.7	0.4	137.6
Within 50-100 Feet of a Site	77	9.6	0.3	0.5	119.2
Within 100-300 Feet of a Site	271.7	42.1	3	4.5	745.1

Table 4.9-6. Alternative 2 – Number of Sites in Proximity to Routes

Resource Description	TMA	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Known Sites Intersected by a Route	1	65	0	0	78
	2	139	4	1	208
	3	53	0	0	77
	4	65	1	2	149
	5	110	0	0	140
	6	50	0	0	54
	7	107	9	9	268
	8	42	0	0	80

Table 4.9-6. Alternative 2 – Number of Sites in Proximity to Routes

Resource Description	TMA	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Known Sites Within 0-50 Feet of a Route	1	90	0	0	95
	2	181	2	1	259
	3	72	0	0	100
	4	95	1	4	201
	5	148	0	0	179
	6	68	0	0	78
	7	146	10	13	355
	8	67	0	0	103
Known Sites Within 50-100 Feet of a Route	1	72	0	0	70
	2	156	0	0	214
	3	41	0	0	48
	4	75	0	0	175
	5	124	0	0	134
	6	59	0	0	50
	7	120	6	19	336
	8	45	0	0	63
Known Sites Within 100-300 Feet of a Route	1	123	0	1	117
	2	246	0	0	309
	3	98	0	0	93
	4	129	0	9	259
	5	181	0	0	237
	6	86	0	0	78
	7	210	12	27	499
	8	65	0	0	128
Known Sites Within DWMA and within 0- 50 Feet of a Route	1	0	0	0	0
	2	0	0	0	0
	3	11	0	0	8
	4	1	0	0	1
	5	129	0	0	146
	6	52	0	0	42
	7	46	1	1	98
	8	35	0	0	51

The limitation of stopping and parking to 50 feet throughout the planning area greatly reduces the number of sites potentially impacted by routes. This decreases the total mileage of routes in proximity to cultural resources from 940 miles in the No Action Alternative to 370 miles in Alternative 2. Because the focus of this alternative is resource protection, the notable differences between TMAs is in the density of sites within 50 feet of closed routes (transportation linear

disturbances) to those within 50 feet of motorized routes. The major differences for this alternative occur in TMAs 2, 4, and 7.

Approximately 1137 cultural resources are previously recorded in TMA 2. Of these, 181 sites fall within 50 feet of a designated motorized route, while 259 sites fall within 50 of a transportation linear disturbance routes. This TMA includes one National Register Listed District, two ACECs designated for cultural resource values, and numerous resources associated with and in proximity to the Coso Mountain obsidian sources and the Coso Rock Art National Register District and Landmark located on China Lake Naval Air Weapons Station. Routes of travel in this area, both motorized and transportation linear disturbances, are primarily associated with existing rights-of-way for transmission corridors, highways, historic railroad grades and the Los Angeles Aqueduct. With the exception of major connectivity routes, many routes in this area were designated transportation linear disturbances based on their proximity to cultural resources. The number of sites previously recorded and the limited amount of inventory completed in this area outside of major rights-of-way indicate this TMA has a high potential for as yet recorded sites.

TMA 4 includes 1,745 previously recorded resources. A total of 95 are located within 50 feet of motorized routes while 201 are located within 50 feet of a transportation linear disturbance. This TMA includes the Jawbone-Butterbredt ACEC, which was designated in part for cultural resource and Native American values, and is currently one of the most intensively utilized portions of the Ridgecrest Field Office for OHV recreation. Cultural resource inventory in this area of the TMA has focused on OHV routes and unauthorized incursions. Many of the transportation linear disturbances identified within this portion of the TMA were previously identified as such because of their proximity to cultural resources.

TMA 7 includes 1,217 previously recorded sites, 146 of which are located within 50 feet of motorized routes and 355 of which are located within 50 feet of transportation linear disturbances. This TMA includes portions of the Fremont-Kramer and Superior-Cronese DWMAs, where stopping and parking are currently limited to 50 feet of motorized routes. The high density of sites is due in part to intensive cultural resource inventory associated with the recreation restoration and improvement efforts in the Rand Mountains, El Paso Mountains, and Ridgecrest areas, highway and transmission corridors, small-scale mining operations, and Abandoned Mine Lands remediation activities. The TMA also includes three National Register Listed Districts and five ACECs designated for cultural resource values.

Alternative 2 Minimization and Mitigation Measures

Table 2.3-5 describes the network-wide minimization and mitigation measures that would be applied under Alternative 2. Many of these measures would act to reduce impacts to cultural resources. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines would reduce the potential for damage to unidentified cultural resources adjacent to routes. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific cultural resource impacts are considered before authorizing new motorized routes. Specific mitigation measures will be applied and implemented based on the Cultural Resources Programmatic Agreement for WEMO, and the associated Treatment Plans developed in consultation with OHP, ACHP, agency and tribal partners.

4.9.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on cultural resources is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The cultural resource impacts of these decisions under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. Competitive event routes that have not been subject to cultural resource inventories will require Section 106 review prior to the authorization of use. Cultural resource inventories have not been completed for the specific routes north of the Navy Road and South of the Spangler Open Area, or for routes which connect the city of Ridgecrest with the Spangler Open Area. Resource values recorded in the immediate vicinity of these routes include historic mining sites, prehistoric lithic quarries, lithic scatters, rock shelters, and habitation complexes. The routes south of the Spangler Open Area are located near the Bedrock Springs Area of Critical Environmental Concern, which has been designated for significant cultural resource values. These resources have been determined eligible for listing on the National Register of Historic Places. As yet unidentified cultural resources may be within or adjacent to the routes and may be impacted by the increased use of the routes by vehicles and spectators as described in the impacts common to all alternatives. Mitigation measures are being included to address the identification and evaluation of these routes in the context of the Programmatic Agreement. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known the cultural resource impacts of those routes would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. The lakebeds may be associated with known or unknown cultural

resources. Therefore, this decision could have a direct, beneficial effect on cultural resources associated with the Koehn lakebed, which would be closed, but an adverse impact on cultural resources on the other three lakebeds.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. Removing the permit requirement as described in WEMO 2006 will have no change in the anticipated impacts to cultural resources from the currently authorized OHV travel routes. Change in the use designation of a route as a result of the removal of the permit will require additional Section 106 cultural resource review.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction would reduce the potential for motorized vehicle use to impact cultural resources in those areas. The effect of this plan amendment decision would be a net beneficial impact on cultural resources located adjacent to the routes that are designated as available for motorized use outside of DWMAs.

PA XI: Under Alternative 3, livestock grazing would continue under the terms and conditions contained in the Final Grazing Decisions issued for active grazing allotments within the West Mojave Planning Area.

Table 4.9-7 provides a summary of total sites by allotment, with specific summary of the total number of sites within allotments where changes to grazing allotments are proposed.

Table 4.9-7: Alternative 3 – Sites within Allotments and within areas proposed for grazing changes

Allotment	Sites Within Areas where Grazing Discontinued	Total Sites
Antelope Valley		14
Bissell		46
Boron Sheep		111
Buckhorn Canyon	7	25
Cady Mountain	299	299
Cantil Common		812
Cronese Lake	250	250
Double Mountain	0	0
Hansen Common		232
Harper Lake	42	42
Johnson Valley	71	71
Kelso Peak		0
Lacey-Cactus-McCloud		282

Table 4.9-7: Alternative 3 – Sites within Allotments and within areas proposed for grazing changes

Allotment	Sites Within Areas where Grazing Discontinued	Total Sites
Monolith Cantil		21
Oak Creek	7	7
Olancha Common		57
Ord Mountain		65
Pilot Knob		25
Rattlesnake Canyon		7
Round Mountain		52
Rudnick Common		461
Shadow Mountains		227
Spangler Hills		136
Stoddard Mountain		718
Tunawee		408
Valley Well		1
Warren		12

The discontinuation of grazing from inactive allotments within DWMAs will eliminate the potential for future impacts associated with livestock grazing to 676 cultural resources sites in seven inactive allotments. This will include values associated with Cronese Basin and Black Mountains.

Alternative 3 Route Designation

Section 4.9.2 described the general impacts to cultural resources that are common to all alternatives. That analysis concluded that motorized vehicles can have direct adverse impacts to cultural resources, as well as indirect impacts to visual, noise, and other values important in tribal areas. Direct impacts to physical resources would likely only occur due to actual contact with motorized vehicles, or by ground disturbance associated with vehicle use, route maintenance, or route reclamation. Therefore, the level of direct impacts tends to be associated with proximity to the resource. The mileage of routes in close proximity to identified cultural resources under Alternative 3 is presented in Table 4.9-8, and the number of sites which may be affected by routes is presented in Table 4.9-9. Indirect impacts in tribal areas are less closely associated with distance between the route and locations of physical resources, but are proportional to the density of motorized routes within each tribal area.

Table 4.9-8. Alternative 3 - Miles of Routes in Proximity to Cultural Resources

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Within a Known Site	372.8	40.9	36.4	0.1	291.7
Within 0-50 Feet of a Site	139.4	12.8	6.5	0.1	79.1
Within 50-100 Feet of a Site	145.5	8.7	1.3	0.3	51.5
Within 100-300 Feet of a Site	729.1	27.7	4	2.5	3034.9

Table 4.9-9. Alternative 3 – Number of Sites in Proximity to Routes

Resource Description	TMA	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Known Sites Intersected by a Route	1	90	0	0	44
	2	226	27	1	86
	3	91	0	1	29
	4	119	2	3	99
	5	143	2	0	111
	6	67	0	0	36
	7	218	15	0	183
	8	69	0	0	45
Known Sites Within 0-50 Feet of a Route	1	126	0	0	52
	2	309	30	1	112
	3	119	0	1	37
Known Sites Within 0-50 Feet of a Route (continued)	4	185	3	5	134
	5	193	2	0	137
	6	95	0	0	50
	7	306	17	1	231
	8	101	0	0	62
Known Sites Within 50-100 Feet of a Route	1	99	0	0	36
	2	285	7	0	67
	3	65	0	0	19
	4	156	3	7	105
	5	163	1	0	91
	6	73	0	0	37
	7	285	8	2	195
	8	66	0	0	37

Table 4.9-9. Alternative 3 – Number of Sites in Proximity to Routes

Resource Description	TMA	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Known Sites Within 100-300 Feet of a Route	1	161	0	0	50
	2	413	7	1	72
	3	141	0	1	27
	4	294	4	10	158
	5	260	1	0	145
	6	113	0	0	52
	7	441	16	3	265
	8	110	0	0	76
Known Sites Within DWMA and within 50 Feet of a Route	1	0	0	0	0
	2	0	0	0	0
	3	11	0	0	6
	4	1	0	0	
	5	166	2	0	110
	6	62	0	0	30
	7	65	4	0	79
	8	49	0	0	38

Alternative 3 designations emphasize increased access throughout the planning area. The reduction of stopping and parking from 300 feet to 100 feet from route centerlines in areas outside of DWMA decreases the total mileage of routes in proximity to cultural resources from 940 miles in the No Action Alternative to 719 miles in Alternative 3. Notable differences in site densities in this alternative occur in TMA 2 and TMA 7.

TMA 2 includes approximately 1,137 previously identified resources; 594 of those sites occur within 100 feet of a motorized route. This TMA includes one National Register Listed District, two ACECs designated for cultural resource values, and numerous resources associated with and in proximity to the Coso Mountain obsidian sources and the Coso Rock Art National Register District and Landmark located on China Lake Naval Air Weapons Station. Under this alternative, several long-range linear routes, including the First and Second Los Angeles, the grade of the Southern Pacific Railroad, the Midland Trail, and the access routes associated with transmission corridors would be accessible to motorized use.

TMA 7 includes 1,217 previously identified resources, 591 of which are located within 100 feet of a motorized route. This TMA includes portions of the Fremont-Kramer and Superior-Cronese DWMAs, where 65 sites fall within 50 feet of a motorized route. The majority of sites occur in areas where intensive cultural resource inventory has occurred in association with recreation restoration and improvement efforts in the Rand Mountains, El Paso Mountains, and Ridgecrest areas, highway and transmission corridors, small-scale mining operations, and Abandoned Mine Lands remediation activities. The TMA also includes three National Register Listed Districts and five ACECs designated for cultural resource values.

Alternative 3 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 3. Many of these measures would act to reduce impacts to cultural resources. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce the potential for damage to unidentified cultural resources adjacent to routes. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific cultural resource impacts are considered before authorizing new motorized routes. Specific mitigation measures will be applied and implemented based on the Cultural Resources Programmatic Agreement for WEMO, and the associated Treatment Plans developed in consultation with OHP, ACHP, agency and tribal partners.

4.9.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on cultural resources is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on cultural resources. However, this decision would make it easier for BLM to consider cultural resource impacts in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on cultural resources.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions on cultural resources under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP.

Competitive event routes that have not been subject to cultural resource inventories will require Section 106 review prior to the authorization of use. Cultural resource inventories have not been completed for the specific routes north of the Navy Road or South of the Spangler Open Area. Resource values recorded in the immediate vicinity of these routes include historic mining sites, prehistoric lithic quarries, lithic scatters, rock shelters, and habitation complexes. The routes south of the Spangler Open Area are located near the Bedrock Springs Area of Critical Environmental Concern, which has been designated for significant cultural resource values. These resources have been determined eligible for listing on the National Register of Historic Places. As yet unidentified cultural resources may be within or adjacent to the routes and may be impacted by the increased use of the routes by vehicles and spectators as described in the impacts common to all alternatives. Mitigation measures are being included to address the identification and evaluation of these routes in the context of the Programmatic Agreement. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2. The cultural resource impacts at Cuddeback, Coyote, and Chisholm Trail Lake lakebeds would be the same as those described for Alternative 3, which would also designate these lakebeds as open to motorized vehicles. The lakebeds may be associated with known or unknown cultural resources. Therefore, this decision could have a direct, adverse impact on cultural resources on Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. Removing the permit requirement as described in WEMO 2006 will have no change in the anticipated impacts to cultural resources from the currently authorized OHV travel routes. Change in the use designation of a route as a result of the removal of the permit will require additional Section 106 cultural resource review.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction would reduce the potential for motorized vehicle use to impact cultural resources in those areas. The effect of this plan amendment decision would be a net beneficial impact on cultural resources located adjacent to the routes that are designated as available for motorized use outside of DWMAs.

PA XI: Under Alternative 4, livestock grazing outside of DWMA would continue under the terms and conditions in the Final Grazing Decisions issued for active grazing allotments with WEMO. For areas within DWMA, livestock grazing would discontinue in DWMA on allotments that are currently inactive or vacant, or that become vacant in the future. Land would no longer be available for livestock grazing in three grazing allotments, consistent with 43 CFR 4130.2 (a), including Harper Lake, Cronese Lake, and a small portion of the Johnson Valley Allotments.

Table 4.9-10 presents the sites within allotments and within areas proposed for grazing changes under Alternative 4.

Table 4.9-10: Alternative 4 – Sites within Allotments and within areas proposed for grazing changes

Allotment	Sites Within Areas where Grazing Discontinued	Total Sites
Antelope Valley		14
Bissell		46
Boron Sheep		111
Buckhorn Canyon		25
Cady Mountain		299
Cantil Common		812
Cronese Lake	250	250
Double Mountain		0
Hansen Common		232
Harper Lake	42	42
Johnson Valley		71
Kelso Peak		0
Lacey-Cactus-McCloud		282
Monolith Cantil		21
Oak Creek		7
Olancha Common		57
Ord Mountain		65
Pilot Knob		25
Rattlesnake Canyon		7
Round Mountain		52
Rudnick Common		461
Shadow Mountains		227
Spangler Hills		136
Stoddard Mountain		718
Tunawee		408
Valley Well		1
Warren		12

The discontinuation of grazing from inactive allotments within DWMAs will eliminate the potential for impacts to a large number of cultural resources. In Cronese Lake and Harper Lake allotments, all previously sites identified in these areas will be protected from impacts associated with livestock grazing. This will include values associated with Cronese Basin and Black Mountains.

Alternative 4 Route Designation

Section 4.9.2 described the general impacts to cultural resources that are common to all alternatives. That analysis concluded that motorized vehicles can have direct adverse impacts to cultural resources, as well as indirect impacts to visual, noise, and other values important in tribal areas. Direct impacts to physical resources would likely only occur due to actual contact with motorized vehicles, or by ground disturbance associated with vehicle use, route maintenance, or route reclamation. Therefore, the level of direct impacts tends to be associated with proximity to the resource. The mileage of routes in close proximity to identified cultural resources under Alternative 4 is presented in Table 4.9-11, and the number of sites which may be affected by routes is presented in Table 4.9-12. Indirect impacts in tribal areas are less closely associated with distance between the route and locations of physical resources, but are proportional to the density of motorized routes within each tribal area.

Table 4.9-11. Alternative 4 - Miles of Routes in Proximity to Cultural Resources

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Within a Known Site	424.6	6.8	1.3	0.1	307.8
Within 0-50 Feet of a Site	120.6	0.7	1	0.1	117.1
Within 50-100 Feet of a Site	98	0.9	1.3	0.1	106.4
Within 100-300 Feet of a Site	396.9	7.8	9.2	1.4	649.6

Table 4.9-12. Alternative 4 – Number of Sites in Proximity to Routes

Resource Description	TMA	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Known Sites Intersected by a Route	1	74	0	0	67
	2	146	6	1	199
	3	60	0	2	68
	4	86	1	0	129
	5	141	0	0	108
	6	45	0	0	58
	7	126	14	0	253
	8	55	0	0	68
Known Sites Within 0-50 Feet of a Route	1	101	0	0	82
	2	148	9	1	250
	3	79	0	2	91
	4	118	2	0	178
	5	190	0	0	137
	6	63	0	0	82
	7	171	17	0	335
	8	85	0	0	88

Table 4.9-12. Alternative 4 – Number of Sites in Proximity to Routes

Resource Description	TMA	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Known Sites Within 50-100 Feet of a Route	1	79	0	0	63
	2	171	12	1	209
	3	49	0	2	43
	4	108	2	0	152
	5	162	0	0	91
	6	56	0	0	53
	7	143	17	1	328
	8	52	0	0	56
Known Sites Within 100-300 Feet of a Route	1	133	0	0	101
	2	251	14	1	296
	3	102	0	5	84
	4	167	2	0	231
	5	230	0	0	172
	6	83	0	0	85
	7	243	27	2	480
	8	85	0	0	116
Known Sites Within DWMA and within 50 Feet of a Route	1	0	0	0	0
	2	0	0	0	0
	3	11	0	0	8
	4	0	0	0	1
	5	165	0	0	108
	6	51	0	0	42
	7	53	1	0	90
	8	4	0	0	43

Alternative 4 increases the total mileage of routes in proximity to cultural resources from 940 in the No Action Alternative to 1,015 miles. The total number of sites within 300 feet of a motorized route is notable in TMAs 1, 2, 3, 5, and 7, where greater than 1/3 of all sites within those TMAs may be impacted under the No Action alternative but would no longer be within the stopping and parking zone under Alternative 4. The sites within TMAs 3, 5 and 7 that are located within one of the several DWMAs in those regions will be allotted protection by the 50 foot limitation for stopping and parking.

The impact to cultural resources from the proposal to split TMA 7 into two separate travel management areas is shown in Table 4.9-13. A total of 821 previously recorded sites would fall within TMA 7, which includes the Red Mountain and Rands subregions. A total of 441 previously identified sites would be located within the new TMA 9, which would include the El Paso and Ridgecrest subregions.

Table 4.9-13. Alternative 4 – Number of Sites in Proximity to Routes in TMA 7 and TMA 9

Resource Description	TMA	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Known Sites Intersected by a Route	7 DWMA	40	0	0	70
	7 Non DWMA	39	5	0	113
	9	76	14	0	118
Known Sites Within 0-50 Feet of a Route	7 DWMA	53	1	0	90
	7 Non DWMA	59	6	0	157
	9	92	17	0	139
Known Sites Within 50-100 Feet of a Route	7 DWMA	40	1	0	82
	7 Non DWMA	45	4	0	156
	9	77	17	0	134
Known Sites Within 100-300 Feet of a Route	7 DWMA	66	1	0	108
	7 Non DWMA	89	8	0	241
	9	116	27	0	181

Portions of TMA 7 fall within the Fremont-Kramer and Superior-Cronese DWMAs. Stopping and parking would continue to be limited to 50 feet of centerline in the DWMAs. A total of 59 sites located in TMA 7 are within DWMAs. The remaining portions of TMA 7 include 193 previously recorded sites within 300 feet of centerline of a motorized route. The new TMA 7 would include two National Register Listed Districts and three ACECs designated for cultural resource values. A total of 285 sites out of the 441 sites located in TMA 9 are within 300 feet of centerline of motorized routes. The new TMA 9 would include one National Register Listed District and two ACECs designated for cultural resource values.

Alternative 4 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 4. Many of these measures would act to reduce impacts to cultural resources. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce the potential for damage to unidentified cultural resources adjacent to routes. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific cultural resource impacts are considered before authorizing new motorized routes. Specific mitigation measures will be applied and implemented based on the Cultural Resources Programmatic Agreement for WEMO, and the associated Treatment Plans developed in consultation with OHP, ACHP, agency and tribal partners.

4.10 Visual Resources

4.10.1 Introduction

Affected Environment Summary

Section 3.10 describes the visual resources within the planning area. The West Mojave Planning area is highly fragmented. It includes relatively undisturbed areas outside of designated wilderness areas that are a major attraction for recreation users and tourists for whom scenic values and visual open space are important. However, portions of the planning area have also experienced a high degree of human modification due to urban development, its associated infrastructure and uses, and energy development. Management direction aimed at preserving sensitive viewsheds competes with other land use allocation decisions and management activities for urban development, infrastructure needs, energy development, recreation uses, and other surface-use activities.

Methodology

The 2005 WEMO EIS included a general discussion of the effects of OHV use on visual resources. The Court's Summary Judgment and Remedy Order did not specifically reach conclusions, or provide direction, regarding the sufficiency of this analysis.

For this SEIS for the WMRNP, BLM performed the following:

- Since the 2005 WEMO EIS, BLM had completed Visual Resource Inventories throughout the planning area. This information is presented in Section 3.10.
- The route designation process for each alternative included evaluation of the location of each route with respect to lands in Visual Resource Inventory (VRI) Classes I through IV.
- Conducted the evaluation, and quantified the miles of motorized routes and closed routes within each VRI class across four alternative route networks, ranging from 4,293 to 10,428 miles in size.
- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, and changes in conditions within the planning area. This additional information is incorporated into the evaluation in Section 4.10.2 below.

4.10.2 Impacts Common to All Alternatives

In general, motorized routes present a contrast, in terms of color and form, with the surrounding landscape, and are therefore considered to be an adverse impact to visual resource values. Similarly, the presence of motorized vehicles on those routes, and dust clouds generated by moving vehicles, can attract the attention of a casual viewer, and may therefore be an adverse impact. Closure and reclamation of routes would eliminate the presence of vehicles and dust clouds in the short-term. In the longer term, closure and reclamation would reduce the impacts of the routes themselves as they begin to re-vegetate and disappear due to non-use. In general, management prescriptions such as closing routes in areas with erodible soils, and limiting the

stopping and parking distances from routes, are beneficial to visual resources by limiting the amount of vegetation removal and soil disturbance, both of which create visual contrast.

The level of impact depends not only on the number and mileage of routes and their use levels, but also on the VRM Class Objectives of the area. In Class III and IV areas, routes and vehicles may not be dominant, or even noticeable, and while the impact would still be considered adverse, it would be limited in magnitude. In Class I and II areas, where the objectives are to avoid attracting the attention of a casual viewer, the magnitude of the impact becomes more severe.

Although motorized vehicle access is considered to be an adverse impact to the resource, it is also necessary, in many areas, to provide access for viewers to enjoy the visual resources in the region. Therefore, the level of impact can be subjective, depending on the viewer. Hikers would likely prefer a vista with no visible transportation linear features at all. Bikers and horseback riders may desire that non-motorized or non-mechanized routes be designated to provide them access, but would still prefer areas with no motorized routes. Motorized users may prefer an area specifically designated for their preferred mode of transport. Therefore, it is not so simple to conclude that a greater number of routes is equivalent to more visual resource impacts. Generally, routes with higher maintenance and use classes result in more substantial impacts to visual resources.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. In that analysis, visual resource impacts were not specifically considered as a criterion in determining which routes would remain open and which would be closed under the various alternatives.

There are no impacts to visual resources from the grazing alternatives in PA XI; therefore, there is no further discussion of PA XI in this section.

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4. For visual resources, these include:

- Modify access to a less impacting designation;
- Restrict stopping/parking/camping;
- Install barriers and maintain or upgrade existing barriers;
- Install/Utilize features to reduce visual impact;
- Remove Attractants; and
- Determine that no additional minimization and mitigation measure is needed based on site evaluation.

Residual Impacts After Implementation of Mitigation Measures

Residual effects to visual resources would continue after application of mitigation measures. Although closure of routes and active route rehabilitation efforts would result in gradual reduction of visual impacts, these reductions would occur over the long-term, and adverse impacts would remain in the short-term.

4.10.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to visual resources. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider visual resources and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit visual resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. Because these activities do not affect visual resources, the No Action alternative would have no direct or indirect impact on visual resources.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that the size of the available transportation network, and the management restrictions placed on that network, can have both

adverse and beneficial effects on visual resources. Although the presence of more routes, especially in Class I and II areas, is considered to be adverse to visual resource values, the presence of these routes is also needed to provide access to the observers. In addition, the closure of routes results in a nominal reduction of adverse impacts to visual resources. In the short term, because most routes remain on the ground, there is not a measurable difference in impacts between alternatives. In the longer term, some closed routes are actively rehabilitated, generally are disguised to line of sight from open routes. The mileage of routes within each Visual Resource Class in the planning area under the No Action Alternative is presented in Table 4.10-1.

Table 4.10-1. Alternative 1 - Miles of Routes in Visual Resource Classes

Resource Description	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
VRI Class I	18.9	0	6.3	101.4
VRI Class II	792.5	0	3.3	1653
VRI Class III	1772.4	0	0	3257.8
VRI Class IV	2699.6	0	0	4203.1

Mileage not accounted for did not have a class assigned

Alternative 1 Minimization and Mitigation Measures

Table 2.3-1 describes the network-wide minimization and mitigation measures that are currently specified in the CDCA Plan, WEMO Plan, and/or the Court's Remedy Order, and which are therefore applicable under Alternative 1, the No Action Alternative. Whether they were applied during the route designation process or are mitigation measures, these measures act to reduce impacts to visual resources. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 300 feet outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for new visual resource impacts, as compared to pre-2006 conditions before these limitations were enacted. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific visual resource impacts are considered before authorizing new motorized routes.

4.10.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to visual resources. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider visual resources and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit visual resources by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to visual resources from each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to visual resources. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The visual resource impacts of these decisions under Alternative 2 are as follows:

PA VII: It is anticipated that the overall number of SRP applications will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to visual resources.

Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November,

December, and January. The visual resource inventory class northeast of the Spangler Hills Open Area is predominately VRI Class III and IV. There are two small pockets of Class II that the C routes pass through to the north of the Navy Road. These two small areas measure approximately 11 and 142 acres, respectively. The seasonal limitations on C routes may reduce their use for motorized events, and thus have localized beneficial impacts on visual resources near those routes.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any effect on visual resources by increasing the recreational use of routes in other areas.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. Although the presence of more routes and vehicles is considered to be adverse to visual resource values, the presence of these routes is also needed to provide access to the observers. Therefore, the closure of Koehn Lakebed associated with this decision would have a beneficial impact in reducing motorized use of the lakebed, but could also have an adverse impact in limiting the ability of the public to access the visual vista available from the lakebeds. Because Koehn lakebed is currently receiving relatively light use, the amount of displaced use to other routes would be low. Therefore, this plan amendment decision is not expected to have an indirect, adverse impact on visual resources by increasing the recreational use of routes in other areas.

PA IX: There would be no change to access to the Rand Mountains-Fremont Valley Management Area under Alternative 2. Because access in this area does not affect visual resources, Alternative 2 would have no direct or indirect impact on visual resources.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative would reduce the potential for motorized vehicle use to create additional disturbance, and would allow previously disturbed areas to re-vegetate. The effect of these actions would be a net beneficial impact on visual resources.

Alternative 2 Route Designation

Section 4.10.2 described the general impacts to visual resources that are common to all alternatives. That analysis concluded that the size of the available transportation network, and the management restrictions placed on that network, can have both adverse and beneficial effects on visual resources. Although the presence of more routes, especially in Class I and II, is considered to be adverse to visual resource values, the presence of these routes is also needed to provide access to the observers. The mileage of routes within each Visual Resource Class in the planning area under Alternative 2 is presented in Table 4.10-2.

Table 4.10-2. Alternative 2 - Miles of Routes in Visual Resource Classes

Resource Description	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
VRI Class I	17.7	0	0	108.7
VRI Class II	643.1	4.4	14.2	1793
VRI Class III	1428.4	23.7	2	3558.8
VRI Class IV	2145.5	0.1	8.7	4754.1

Mileage not accounted for did not have a class assigned

Alternative 2 Minimization and Mitigation Measures

Table 2.3-5 describes the network-wide minimization and mitigation measures that would be applied under Alternative 2. Many of these measures would act to reduce impacts to visual resources. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for visual resource impacts. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific visual resource impacts are considered before authorizing new motorized routes.

4.10.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on visual resources is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The visual resource impacts of these decisions under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. The visual resource inventory class northeast of the Spangler Hills Open Area is predominately VRI Class III and IV. There are two small pockets of Class II that the C routes pass through to the north of the Navy Road. These two small areas measure approximately 11 and 142 acres, respectively.

In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known the visual resource impacts of those routes would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. Although the presence of more routes and vehicles is considered to be adverse to visual resource values, the presence of these routes is also needed to provide access to the observers. Therefore, the modification of access to the lakebeds associated with this decision would have an adverse impact in increasing motorized use of vehicles on the lakebeds, but could also have a beneficial impact in increasing the ability of the public to access the visual vista available from the lakebeds.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. Eliminating the permit requirement would not result in designation of additional routes or an increase in soil disturbance. This decision may result in an increase in recreational use of the existing routes, but this increase is expected to be minor. Therefore, this decision is not expected to have any effect on visual resources.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction would reduce the potential for motorized vehicle use to create additional disturbance, and would allow previously disturbed areas to re-vegetate. The effect of these actions would be a net beneficial impact on visual resources.

Alternative 3 Route Designation

Section 4.10.2 described the general impacts to visual resources that are common to all alternatives. That analysis concluded that the size of the available transportation network, and the management restrictions placed on that network, can have both adverse and beneficial effects on visual resources. Although the presence of more routes, especially in Class I and II, is considered to be adverse to visual resource values, the presence of these routes is also needed to provide access to the observers. The mileage of routes within each Visual Resource Class in the planning area under Alternative 3 is presented in Table 4.10-3.

Table 4.10-3. Alternative 3 - Miles of Routes in Visual Resource Classes

Resource Description	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
VRI Class I	18.3	0	0	110.7
VRI Class II	1898.3	13.7	22.6	539
VRI Class III	3573.8	61	1.8	1453.4
VRI Class IV	4804.1	7.9	1.7	2181.2

Mileage not accounted for did not have a class assigned

Alternative 3 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 3. Many of these measures would act to reduce impacts to visual resources. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for visual resource impacts. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific visual resource impacts are considered before authorizing new motorized routes.

4.10.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on visual resources is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on visual resources. However, this decision would make it easier for BLM to consider visual resource impacts in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on visual resources.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The visual resource impacts of these decisions under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. The Visual resource inventory class for this area is predominately VRI Class III and IV. There are two small pockets of Class II that the C routes pass through to the north of the Navy Road. These two small areas measure at approximately 11 and 142 acres respectively. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. Although the presence of more routes and vehicles is considered to be adverse to visual resource values, the presence of these routes is also needed to provide access to the observers. Therefore, the modification of access to the lakebeds associated with this decision would have an adverse impact in increasing motorized use of vehicles on the lakebeds, but could also have a beneficial impact in increasing the ability of the public to access the visual vista available from the lakebeds. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction would reduce the potential for motorized vehicle use to create additional disturbance, and would allow previously disturbed areas to re-vegetate. The effect of these actions would be a net beneficial impact on visual resources.

Alternative 4 Route Designation

Section 4.10.2 described the general impacts to visual resources that are common to all alternatives. That analysis concluded that the size of the available transportation network, and the management restrictions placed on that network, can have both adverse and beneficial effects on visual resources. Although the presence of more routes, especially in Class I and II, is

considered to be adverse to visual resource values, the presence of these routes is also needed to provide access to the observers. The mileage of routes within each Visual Resource Class in the planning area under Alternative 4 is presented in Table 4.10-4.

Table 4.10-4. Alternative 4 - Miles of Routes in Visual Resource Classes

Resource Description	Motorized	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
VRI Class I	19.9	0	0	106.6
VRI Class II	976.1	30.9	7.1	1445.8
VRI Class III	1846.4	21.3	6.8	3157.2
VRI Class IV	2846.8	4.3	6.4	4023.5

Mileage not accounted for did not have a class assigned

Alternative 4 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 4. Many of these measures would act to reduce impacts to visual resources. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for visual resource impacts. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific visual resource impacts are considered before authorizing new motorized routes.

4.11 Special Designations and Other Inventoried Areas

4.11.1 Introduction

Affected Environment Summary

Section 3.11 describes the specially designated areas within the planning area, which include wilderness, Wilderness Study Areas (WSAs), Areas of Critical Environmental Concern (ACECs), and Desert Wildlife Management Areas (DWMAs). These areas are managed to protect specific resources and values that were associated with their designation. Resources associated with designation of ACECs in the West Mojave include wildlife, vegetation, archaeological, paleontological, scenic, geologic, riparian, and tribal values.

This section also includes lands inventoried for wilderness characteristics. These lands are described in Chapter 3, subsection 3.11. Lands inventoried for wilderness characteristics are not assigned special designations, and do not have special management prescriptions unless they fall within ACECs or other special designations such as wildlife management areas. Lands inventoried for wilderness characteristics are generally large blocks of public land with at least 5,000 acres, or are adjacent to existing wilderness or WSAs; are generally affected primarily by the forces of nature; and may provide opportunities for solitude and primitive and unconfined recreation.

Methodology

The 2005 WEMO EIS analyzed the impacts of the 5,098 mile route network evaluated in that EIS with respect to existing areas with special designations, and to newly proposed special designation areas evaluated as part of the 2006 WEMO Plan. The analysis included a discussion of the effects of the proposed motorized vehicle network on vegetation, wildlife, cultural resources, and other values for which the special designation areas were established, but did not specifically evaluate the transportation network within each area. The Court's Summary Judgment and Remedy Order did not specifically reach conclusions, or provide direction, regarding the sufficiency of the discussion. The Court did make a general finding that the range of route network alternatives evaluated was inadequate.

For this SEIS for the WMRNP, BLM performed the following:

- The route designation process for each alternative included evaluation of the location of each route with respect to ACECs, DWMAs, wilderness, WSAs, and lands inventoried for wilderness characteristics. As discussed in Sections 3.4, 3.9, and other sections, BLM also evaluated the transportation network with respect to the biological, cultural, and other resources for which those areas were designated.
- Conducted route evaluation and quantified the miles of motorized routes that could potentially impact special designation areas across four alternative route networks, ranging from 4,293 to 10,428 miles in size.
- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, changes in conditions within the planning area, and changes in the applicable regulatory framework for special designation areas and lands inventoried for wilderness characteristics. This additional information is incorporated into the evaluation in Section 4.11.2 below.

4.11.2 Impacts Common to All Alternatives

The specially designated areas are established to protect biological, cultural, scenic, and other resources, and the impact of motorized vehicle use and route designation on the management objectives of those areas is similar to that discussed for each of the specific resources. The presence and use of motorized routes and of non-mechanized and non-motorized trails are generally considered to have an adverse impact to these resources; closure of routes and trails, or conversion of routes to trails, is considered to be beneficial. However, the management of motorized vehicles and designation of routes in these areas is already prescribed by legislation, policy, and the CDCA Plan, as amended; and has been previously accomplished through ACEC-specific activity plans. These designations were incorporated into the designations of the 2006 WEMO Plan. For instance, all routes in federally designated wilderness areas were closed to vehicle use with the designation of the areas as wilderness by signing of the California Desert Protection Act in 1994. Therefore, none of the alternatives include the designation of any motorized routes of travel within wilderness for casual public use.

The designation of routes, implementation strategies, and the process for future consideration of routes within ACECs were established by the decisions in the West Mojave Plan, and these would remain the same under the No Action Alternative. Additional management parameters for ACECs may be established under the other alternatives, based on the decisions of the WMRNP.

The decisions being made as part of the WMRNP would serve several purposes with respect to specially designated areas, as follows:

- The existing route designations, management prescriptions, and specific implementation strategies within the ACECs would be incorporated or updated in the resulting CDCA plan amendment. Changes within ACECs must conform to the goals for the adopted ACEC Plans.
- Existing route designations in certain specially designated areas may be changed to conform to the overall goals and objectives selected as part of the WMRNP. For instance, under Alternative 2, the route designation process used to establish the alternative route networks generally specified closure of routes that intersect with wilderness areas and in route proliferation areas within DWMAs.
- Existing routes within WSAs may be designated as motorized primitive trails if they were already designated open under the No Action Alternative, or the trail may be redesignated for non-mechanized or non-motorized use, or closed. Current policy does not provide for reconsideration of an existing route in WSA if it has been previously closed.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. Impacts to specially designated areas were considered in the development of alternative goals and objectives, in designation of individual routes, and in defining specific implementation parameters.

Biological, cultural, and visual, and other sensitive resource impacts were considered in the development of the goals and objectives for the various alternatives. The goals and objectives

for Alternative 2 focus on enhancing sensitive resource values and areas, and managing access to de-emphasize casual multiple-use motorized and mechanized touring. In contrast, the goals and objectives for Alternative 3 focus on meeting the diverse transportation, access, and recreational needs of the public, and managing access to emphasize casual multiple-use motorized and mechanized touring.

Impacts to the resources and management objectives for the specially designated areas were also considered by evaluating individual route locations with respect to identified biological, cultural, and other resources. Vegetation and wildlife impacts were considered by evaluating route locations with respect to DWMAs (for desert tortoise), ACECs, Designated Critical Habitat, the Mohave Ground Squirrel Core Areas, nest locations (for golden eagles), wildlife corridors, and other identified habitat features. The potential for cultural resource impacts was considered by evaluating route locations with respect to resource locations, with areas that intersect or are within 50 feet, 100 feet, or 300 feet of identified resources, or within a tribal area. The potential for riparian, spring and other water impacts was considered by evaluating route locations with respect to proximity of these resources. Routes in these locations were considered for minimization and mitigation measures, including potential route closure. Many ACECs include features that are recognized for their historic travel and use characteristics and their current recreational value given their unique assets, including scenic and geologic features and the other sensitive resource values. Some of the ACECs include recreational assets, including campgrounds, other facilities, maintained routes, along with OHV Open areas which were also factored into route designations.

In addition, the WMRNP alternatives include consideration of stopping and parking distances from routes in order to minimize disturbance of resources in those areas. Therefore, minimization of biological and cultural resource impacts was a factor both in development of the alternative route networks, and in the specific limitations placed on routes in those networks. These minimization and mitigation measures differ among the alternatives, and are therefore discussed in more detail in the Biological and Cultural Resources subsections 4.8, 4.9, and 4.14.

Livestock grazing has historically been present in the Ord-Rodman DWMA ACEC for at least 50 years, and was present at the time of ACEC designation in 2006. At the time of designation, grazing use did not adversely affect the basis for which this area met relevance and importance criteria for ACEC designation, and a strategy to manage the presence of livestock for the reasonably foreseeable future has been included in the WEMO Plan as a component of the ACEC Plan. In addition to the Ord-Rodman DWMA ACEC there are several other ACECs, both cultural and biological co-located within West Mojave grazing allotments. In most cases, relevant and important resources have been protected from the impacts of grazing in key locations (e.g., fencing, exclosures, cattle guards, etc.) consistent with the ACEC Management Plans for each area.

The direct impacts to designated wilderness areas within West Mojave grazing allotments from grazing would be the same as what occurred prior to the passage of the CDPA. Based on low livestock numbers and limited seasonal use due to the lack of water the effects of grazing are not considered substantial enough to adversely affect the wilderness character of the designated lands.

The reduction in the utilization thresholds on perennial forage to 25% during the growing season would be beneficial to the naturalness of the affected wilderness areas by protecting the natural

composition of vegetation communities. Due to the lack of developed or perennial water sources these wilderness areas are primarily grazed in the winter/spring and typically with light stocking rates. There are currently very few range improvements in designated wilderness; however the development of future range improvements or the hauling of water in close proximity to wilderness boundaries would increase the number and duration of livestock grazing in wilderness areas. Since range improvements are driven by available water sources, it is reasonably foreseeable that at least one wilderness area may be impacted due to the location of suitable perennial water adjacent to its boundary. This may result in a nominal increased impact to naturalness and the opportunity for solitude when cattle are present. Impacts to wilderness from the development of a new range improvement would be documented and analyzed in the project specific EA that would be prepared prior to the development of any proposed project.

In the Ord Mountain Allotment the stipulation that requires a threshold of 230 lb/acre ephemeral forage production or greater to authorize grazing in portions of the DWMA would also be beneficial to the naturalness of the portions of the affected designated wilderness that overlap DWMA. The threshold would help protect native vegetation and consequently native wildlife by helping to prevent excessive use in dry years. During years when the threshold is not met, cattle would be substantially removed from the entire Newberry Mountains Wilderness areas from March 15th to June 15th. Wilderness visitors would have greater opportunity to experience an area without evidence of man during this time period.

For allotments that have been relinquished, the wilderness areas would benefit due to the increases in naturalness discussed above. The naturalness of the areas would no longer be impacted by the presence of a non-native species (cattle). The opportunity to experience an area without evidence of man would not be impacted by the presence of cattle. The wilderness character and the opportunity for solitude would not be affected by the sights and sounds associated with range improvement maintenance including occasional motorized equipment use in wilderness. In addition, there would not be any future potential to graze cattle in the area and range improvements could be removed to improve the areas' naturalness and provide a greater opportunity to experience an area without evidence of man. These beneficial impacts are not considered substantial, because the impacts of grazing did not substantially adversely affect the wilderness qualities at the time of area designations.

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4.

For ACECs, potential minimization and mitigation measures include:

- Modify access to a less impacting designation;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Install access type restrictor;
- Re-align route to avoid designated area;
- Restrict stopping/parking/camping;
- Add/Upgrade parking/camping area;

- Install barriers and maintain or upgrade existing barriers;
- Add or modify non-motorized trail access;
- Remove Attractants;
- Construct or Install Educational information such as signs and kiosks;
- Install fencing;
- Narrow route;
- Monitor the route for signs of increasing impacts to a sensitive resource; and
- Determine that no additional minimization and mitigation measure is needed based on site evaluation.

For wilderness study areas, potential minimization and mitigation measures include:

- Modify access to a less impacting designation;
- Modify access to a less impacting designation;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Install access type restrictor;
- Restrict stopping/parking/camping;
- Install barriers and maintain or upgrade existing barriers;
- Remove Attractants;
- Monitor the route for signs of increasing impacts to a sensitive resource; and
- Determine that no additional minimization and mitigation measure is needed based on site evaluation.

For lands inventoried for wilderness characteristics, potential minimization and mitigation measures include:

- Remove Attractants;
- Modify access to a less impacting designation;
- Prohibit Special Recreation Permit Use;
- Install Signs;
- Install barriers;
- Maintain existing barriers;
- Install step-overs;
- Monitor the route for signs of increasing impacts to a sensitive resource, and
- Determine that no additional minimization and mitigation measure is needed.

Residual Impacts After Implementation of Mitigation Measures

Residual effects to Special Designation areas would continue after application of mitigation measures, both with continued motorized vehicle use, and following closure of routes. Although impacts would be reduced from those that would have existed without mitigation measures, continued motorized vehicle use within ACECs, DWMAs, WSAs, and lands inventoried for wilderness characteristics could still impact wildlife, vegetation, and other resources for which these special designations were made. Impacts would continue to occur due to direct strikes to wildlife by motorized vehicles, motorized vehicle noise, and disturbance of soil and vegetation. Closure of routes in those areas may not result in recovery in the short-term, unless active rehabilitation efforts are taken.

4.11.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to Special Designation areas. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider Special Designations and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit Special Designation areas by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The West Rand ACEC and part of the Fremont-Kramer DWMA fall within the boundaries of the Rand

Mountain-Fremont Valley Management Area. But requiring or not requiring all vehicle operators to complete an educational orientation program before they can purchase a permit and operate a vehicle within the area does not change the proposed designated route system. Therefore this action would not have any direct impact on these designation boundaries.

Livestock grazing has historically been present in the Ord-Rodman DWMA ACEC for at least 50 years, and was present at the time of ACEC designation in 2006. At the time of designation, grazing use did not adversely affect the basis for which this area met relevance and importance criteria for ACEC designation, and a strategy to manage the presence of livestock for the reasonably foreseeable future has been included in the WEMO Plan as a component of the ACEC Plan. In addition to the Ord-Rodman DWMA ACEC there are several other ACECs, both cultural and biological co-located within West Mojave grazing allotments. In most cases, relevant and important resources have been protected from the impacts of grazing in key locations (e.g., fencing, exclosures, cattle guards, etc.) consistent with the ACEC Management Plans for each area.

The direct impacts to designated wilderness areas within West Mojave grazing allotments from grazing would be the same as what occurred prior to the passage of the CDPA. Based on low livestock numbers and limited seasonal use due to the lack of water the effects of grazing are not considered substantial enough to adversely affect the wilderness character of the designated lands.

The reduction in the utilization thresholds on perennial forage to 25% during the growing season would be beneficial to the naturalness of the affected wilderness areas by protecting the natural composition of vegetation communities. Due to the lack of developed or perennial water sources these wilderness areas are primarily grazed in the winter/spring and typically with light stocking rates. There are currently very few range improvements in designated wilderness; however the development of future range improvements or the hauling of water in close proximity to wilderness boundaries would increase the number and duration of livestock grazing in wilderness areas. Since range improvements are driven by available water sources, it is reasonably foreseeable that at least one wilderness area may be impacted due to the location of suitable perennial water adjacent to its boundary. This may result in a nominal increased impact to naturalness and the opportunity for solitude when cattle are present. Impacts to wilderness from the development of a new range improvement would be documented and analyzed in the project specific EA that would be prepared prior to the development of any proposed project.

In the Ord Mountain Allotment the stipulation that requires a threshold of 230 lb/acre ephemeral forage production or greater to authorize grazing in portions of the DWMA would also be beneficial to the naturalness of the portions of the affected designated wilderness that overlap DWMA. The threshold would help protect native vegetation and consequently native wildlife by helping to prevent excessive use in dry years. During years when the threshold is not met, cattle would be substantially removed from the entire Newberry Mountains Wilderness areas from March 15th to June 15th. Wilderness visitors would have greater opportunity to experience an area without evidence of man during this time period.

For allotments that have been relinquished, the wilderness areas would benefit due to the increases in naturalness discussed above. The naturalness of the areas would no longer be impacted by the presence of a non-native species (cattle). The opportunity to experience an area without evidence of man would not be impacted by the presence of cattle. The wilderness

character and the opportunity for solitude would not be affected by the sights and sounds associated with range improvement maintenance including occasional motorized equipment use in wilderness. In addition, there would not be any future potential to graze cattle in the area and range improvements could be removed to improve the areas' naturalness and provide a greater opportunity to experience an area without evidence of man. These beneficial impacts are not considered substantial, because the impacts of grazing did not substantially adversely affect the wilderness qualities at the time of area designations.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that motorized vehicles can have adverse impacts on biological, cultural, and scenic resources for which the special designation areas were established. The impacts to the specific resources would be the same as discussed in the subsections for those resources. By impacting the resources themselves, motorized vehicle use would potentially conflict with the management objectives established for these areas, including objectives established in activity plans, guidance, or legislation. The level of impact would generally be proportional to the mileage of motorized routes within each area. The acreage and mileage of routes associated with the different types of Special Designation areas and lands inventoried for wilderness characteristics under the No Action Alternative is presented in Table 4.11-1. The acreage and mileage of routes within specific ACECs under the No Action Alternative is presented in Table 4.11-2.

Table 4.11-1. Alternative 1 – Acreage and Mileage of Routes in Special Designation Areas

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Areas of Critical Environmental Concern	814.2	30.4	1228.5	31932	0	0.3	2233.2
Desert Wildlife Management Areas	2231.1	45	3310.7	20187	0	0	3084.4
Wilderness Areas	0	0	0	0	0	7.3	421.1
Wilderness Study Areas	67.2	0.1	97.9	2523	0	10.7	117.3
Lands Inventoried for Wilderness Characteristics	243.1	0	353.6	198901	0	0.3	156.5

Table 4.11-2. Alternative 1 – Acreage and Mileage of Routes in ACECs and DWMAs

Area	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
ACEC							
Afton Canyon Natural Area	15.5	0	22.5	800	0	0	32.5
Amboy Crater National Natural Landmark	0	0	0	35	0	0	0.5
Barstow Woolly Sunflower	46.2	0.7	68.2	377	0	0	61.7
Bedrock Springs	2.2	0	3.2	118	0	0	1.9
Bendire's Thrasher Conservation Area	14.6	2.5	24.9	1099	0	0	38.5
Big Morongo Canyon	7.6	0	11.1	482	0	0	22.4
Black Mountain Cultural	88.5	0.9	130	496	0	0	55.9
Calico Early Man Site	6.1	0	8.9	93	0	0	3.2
Carbonate Endemic Plants Research Natural Area	2.6	11.7	20.8	1039	0	0	11.6
Christmas Canyon	0.2	0	0.3	21	0	0	7.5
Coolgardie Mesa Lane Mountain Milkvetch	23.6	1.6	36.7	55	0	0	71.2
Cronese Lakes	11.4	0	16.6	185	0	0	13.3
Desert Tortoise Research Natural Area	0.6	0	0.9	37	0	0	126.2
Fossil Falls	1.8	0	2.6	331	0	0	8.1
Great Falls Basin	5.3	0	7.7	366	0	0	9.7
Harper Dry Lake	0	0	0	11	0	0	1.8
Jawbone/Butterbredt	283.6	6.4	421.8	14729	0	0	1320.9
Juniper Flats Cultural Area	10.2	0.4	15.4	730	0	0	12.3
Kelso Creek Monkeyflower	8.7	0	12.7	419	0	0	8
Last Chance Canyon	25.1	0	36.5	1082	0	0	65.4
Manix Paleontological Area	12	0	17.5	719	0	0	4.1
Middle Knob	30	0	43.6	1320	0	0.3	28.6
Mohave Monkeyflower	64.4	3.8	99.2	1792	0	0	115.1
Mojave Fishhook Cactus	0.5	0	0.7	37	0	0	3.1
Mojave Fringe-Toed Lizard	19.4	0	28.2	922	0	0	32.5
Parish's Phacelia	0	0.6	0.9	7	0	0	2.8
Pisgah Crater	58	0	84.4	2730	0	0	8.8

Table 4.11-2. Alternative 1 – Acreage and Mileage of Routes in ACECs and DWMAs

Area	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Rainbow Basin Natural Area	0.5	1.8	3.3	90	0	0	12.1
Red Mountain Spring	1.5	0	2.2	0	0	0	4.6
Rodman Mountains Cultural Area	3.6	0	5.2	156	0	0	13.9
Rose Springs	1.8	0	2.6	104	0	0	7.4
Sand Canyon	3.7	0	5.4	209	0	0	5.5
Short Canyon	1.3	0	1.9	27	0	0	1.1
Soggy Dry Lake Creosote Rings	0	0	0	23	0	0	4.4
Trona Pinnacles	13.6	0	19.8	517	0	0	15.5
Upper Johnson Valley Yucca Rings	0	0	0	0	0	0	0
Western Rand Mountains	60.5	0	88	810	0	0	110.3
West Paradise Lane Mountain Milkvetch	0	0	0	0	0	0	0.7
Whitewater Canyon	0	0	0	0	0	0	1.5
DWMAs							
Fremont-Kramer	937.7	5.8	1372.4	8152	0	0	1448.7
Ord-Rodman	290.2	19.9	451.1	2887	0	0	568
Pinto Mountains	126.4	4	189.7	1416	0	0	74.5
Superior-Cronese	874.1	15.3	1293.7	7732	0	0	993.2

Alternative 1 Minimization and Mitigation Measures

This alternative is further mitigated by continuing the ongoing and future partnerships between the BLM and the local non-profits and agencies to further intensive travel management, land management, and ACEC resource protection activities within the Jawbone and Western Rand Mountains ACECs and the Fremont-Kramer DWMA through such efforts as increased signing and monitoring patrols, field maintenance, facility maintenance, implementation of resource-site protection measures, and habitat restoration.

Table 2.3-1 describes the network-wide minimization and mitigation measures that are currently specified in the CDCA Plan, WEMO Plan, and/or the Court's Remedy Order, and which are therefore applicable under Alternative 1, the No Action Alternative. Whether they were applied during the route designation process or are mitigation measures, these measures act to reduce impacts to biological, cultural, and other resources for which these areas were specially designated. Measures also reduce impacts to lands that have been inventoried for wilderness characteristics. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 300 feet outside of DWMAs limit soil compaction or disturbance in currently

undisturbed areas, thus reducing the potential for new impacts to biological, cultural, scenic, and other resources for which special designations were made, as compared to pre-2006 conditions before these limitations were enacted. Requirements for plan amendment and NEPA reviews of future route network changes would ensure that specific biological, cultural, and other resource impacts are considered before authorizing new motorized routes, but may also slow response to changing conditions on the ground.

4.11.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to Special Designation areas. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider Special Designation areas and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit Special Designation areas by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to Special Designation areas of each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to Special Designation areas. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the

authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The Special Designation area impacts of these decisions under Alternative 2 are as follows:

PA VII: It is anticipated that the overall number of SRP applications will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to Special Designation areas.

Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. Because the proposed C routes northeast of the Spangler Hills Open Area are not associated with any special designations, this decision would not result in any impacts to Special Designation areas.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. The elimination of the Johnson Valley to Parker event may reduce impacts to special designations in that area. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any effect on Special Designation areas by increasing the recreational use of routes in other areas.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. In general, these lakebeds are not Special Designation areas. Therefore, this decision would not have any direct effect on Special Designation areas associated with the lakebeds. Because Koehn lakebed is currently receiving relatively light use, the amount of displaced use to other routes would be low. Therefore, this plan amendment decision is not expected to have an indirect, adverse impact on Special Designation areas by increasing the recreational use of routes in other areas.

PA IX: There would be no change to access to the Rand Mountains-Fremont Valley Management Area under Alternative 2. The West Rand ACEC and part of the Fremont-Kramer DWMA fall within the boundaries of the Rand Mountain-Fremont Valley Management Area. But requiring or not requiring all vehicle operators to complete an educational orientation program before they can purchase a permit and operate a vehicle within the area does not change the proposed designated route system. Therefore Alternative 2 would not have any direct impact on these designation boundaries.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing vegetation, wildlife, and other impacts in those areas. This decision would also reduce the potential for motorized vehicle use to impact resources in those areas. The effect of these actions would be a net beneficial impact on Special Designation areas and lands inventoried for wilderness characteristics.

PA XI: Under this alternative, livestock grazing would be discontinued in most of the Ord Mountain Allotment which would include the Newberry Mountains and Rodman Mountain Wilderness Areas. Because livestock grazing would no longer occur the wilderness area would benefit due to the increases in naturalness. Wilderness visitors would have greater opportunity to experience an area without evidence of man during this time period. Under this alternative, future livestock grazing would not be authorized on the Harper Lake Allotment. Therefore, the Black Mountain Wilderness Area would benefit due to the increased naturalness of the area.

For allotments that have been relinquished, the wilderness areas would benefit due to the increases in naturalness discussed above. The naturalness of the areas would no longer be impacted by the presence of a non-native species (cattle). The opportunity to experience an area without evidence of man would not be impacted by the presence of cattle. The wilderness character and the opportunity for solitude would not be affected by the sights and sounds associated with range improvement maintenance including occasional motorized equipment use in wilderness. In addition, there would not be any future potential to graze cattle in the area and range improvements could be removed to improve the areas' naturalness and provide a greater opportunity to experience an area without evidence of man. These beneficial impacts are not considered substantial, because the impacts of grazing did not substantially adversely affect the wilderness qualities at the time of area designations.

Alternative 2 Route Designation

Section 4.11.2 described the general impacts to specially-designated areas that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on biological, cultural, and scenic resources for which the special designation areas were established. The impacts to the specific resources would be the same as discussed in the subsections for those resources. By impacting the resources themselves, motorized vehicle use would potentially conflict with the management objectives established for these areas, including objectives established in activity plans, guidance, or legislation. The level of impacts would generally be proportional to the mileage of motorized routes within each area. The acreage and mileage of routes associated with the different types of Special Designation areas and lands inventoried for wilderness characteristics under Alternative 2 is presented in Table 4.11-3. The acreage and mileage of routes within specific ACECs under Alternative 2 is presented in Table 4.11-4.

Table 4.11-3. Alternative 2 - Acreage and Mileage of Routes in Special Designation Areas

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Areas of Critical Environmental Concern	481.8	98.5	844.1	6873	0	20.1	2405.3
Desert Wildlife Management Areas	1683.8	56.6	2531.5	19828	0	1.3	3593.9
Wilderness Areas	0	0.5	0.73	0	0.1	8.1	426.7
Wilderness Study Areas	34.1	0.6	50.5	424	0	0.5	149.9
Lands Inventoried for Wilderness Characteristics	189	1.3	276.8	44234	0	6.7	201.3

Table 4.11-4. Alternative 2 – Acreage and Mileage of Routes in ACECs and DWMAs

Area	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
ACEC							
Afton Canyon	10	0	14.5	108	0	0	38.4
Amboy Crater National Natural Landmark	0.5	0	0.7	6	0	0	0
Barstow Woolly Sunflower	0	0	0	0	0	0	110.8
Bedrock Springs	2.2	0	3.2	22	0	0	1.9
Bendire's Thrasher Conservation Area	14.9	0.2	22	182	0	0	40.2
Big Morongo Canyon	6.8	0	9.9	83	0	0	23.2
Black Mountain	45.3	0.1	66	496	0	0	99.9
Calico Early Man Site	5.8	0	8.4	37	0	0	3.5
Carbonate Endemic Plants Research Natural Area	13.3	1	20.8	184	0	0	11.8

Table 4.11-4. Alternative 2 – Acreage and Mileage of Routes in ACECs and DWMAs

Area	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Christmas Canyon	0.2	0	0.3	2	0	6.5	1
Coolgardie Mesa	4.6	0.1	6.8	55	0	0	91.7
Cronese Basin	2.8	0	4.1	31	0	0	22.1
Desert Tortoise Research Natural Area	4.2	0	6.1	37	0	0	125.3
Fossil Falls	1.0	5.2	9	61	0	0	3.7
Great Falls Basin	4.9	0	7.1	59	0	0.1	10
Harper Dry Lake	0	0	0	0	0	0.4	1.4
Jawbone/ Butterbredt	156	51.5	301.8	2419	0	13.1	1388.3
Juniper Flats	11.3	0.3	16.9	137	0	0	11.4
Kelso Creek Monkeyflower	6.5	0	9.5	74	0	0	10.2
Last Chance Canyon	19.7	0	28.7	199	0	0	70.8
Manix	12	0	17.5	126	0	0	3.7
Middle Knob	21.3	0	31	235	0	0.4	37.2
Mohave Monkeyflower	53	1.1	78.7	586	0	0	129
Mojave Fishhook Cactus	0.5	0	0.7	6	0	0	3.2
Mojave Fringe-Toed Lizard	16.8	0	24.4	175	0	0	34.3
Parish's Phacelia	0.6	0	0.9	7	0	0	3
Pisgah Crater	46.0	0.2	67.2	489	0	0	20.7
Rainbow Basin	5.0	0.1	7.4	60	0	0	12.6
Red Mountain Spring	0	0	0	0	0	0	6.1
Rodman Mountains Cultural Area	3.6	0	5.2	38	0	0	13.9
Rose Springs	1.3	1	3.3	15	0	0	6.9
Sand Canyon	1.4	2.4	5.5	39	0	0	5.4
Short Canyon	0.5	0	0.7	5	0	0	2
Soggy Dry Lake Creosote Rings	0	0	0	2	0	0	4.4
Trona Pinnacles	8.3	0	12.1	89	0	0	20.7
Upper Johnson Valley Yucca Rings	0	0	0	0	0	0	0

Table 4.11-4. Alternative 2 – Acreage and Mileage of Routes in ACECs and DWMAs

Area	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Western Rand Mountains	34.2	35.3	101.1	806	0	0	98.5
West Paradise	0	0	0	0	0	0	0.7
Whitewater Canyon	0	0	0	0	0	0	1.2
DWMA							
Fremont-Kramer	633.2	44.4	985.6	7792	0	1.3	1706.6
Ord-Rodman	254.9	5.5	378.8	2884	0	0	612.3
Pinto Mountains	119.3	0.1	173.7	1416	0	0	90
Superior-Cronese	676.3	6.6	993.3	7736	0	0	1185

In Alternative 2, the majority of differences observed in the total mileage of routes within ACECs reflect more accurate mapping of the routes present within ACECs. The decrease in motorized route mileage between Alternative 2 and the No Action Alternative for most ACECs represents the overall goals and objectives of the Alternative to minimize the route network for resource protection.

In Rose Spring ACEC, the increase in route mileage reflects a complete mapping of the currently approved rights-of-way for the Los Angeles Aqueduct and the transmission lines emanating from the power station at Haiwee Reservoirs. The designation of these routes allows for connectivity on existing maintained and well-used routes.

The increase in route mileage in Fossil Falls ACEC reflects a more accurate mapping of the existing access routes for two major transmission lines that traverse the ACEC. The motorized routes also correspond to the BLM managed interpretive trail and campground.

Alternative 2 Minimization and Mitigation Measures

This alternative is further mitigated by continuing the ongoing and future partnerships between the BLM and the local non-profits and agencies to further intensive travel management, land management, and ACEC resource protection activities within the Jawbone and Western Rand Mountains ACECs and the Fremont-Kramer DWMA through such efforts as increased signing and monitoring patrols, field maintenance, facility maintenance, implementation of resource-site protection measures, and habitat restoration.

Table 2.3-5 describes the network-wide minimization and mitigation measures that would be applied under Alternative 2. Many of these measures would act to reduce impacts to biological, cultural, and other resources for which these areas were specially designated. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for impacts to biological, cultural, scenic, and other resources for which special designations were made.

Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific biological, cultural, and other resource impacts are considered before authorizing new motorized routes.

4.11.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on Special Designation areas is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions on Special Designation areas under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. The designation of two competitive event corridors that are adjacent to or overlap the Ord-Rodman DWMA could result in additional impacts to the DWMA based on increased levels of use in the DWMA. These impacts include associated increased levels of dust and erosion and increased potential for DT strikes. Competitive events in the area would include permit-specific measures associated with the SRP, as well as measures identified by the USFWS. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known, impacts of those routes to Special Designation areas would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. In general, these lakebeds are not Special Designation areas. Therefore, this decision would not have any direct effect on Special Designation areas associated with the lakebeds.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The West Rand ACEC and part of the Fremont-Kramer DWMA fall within the boundaries of the Rand Mountains-Fremont Valley Management Area. Not requiring a visitor to complete an educational orientation program before visiting an area may result in an indirect impact if the visitor is unaware of the special resources within the particular area. These impacts maybe overcome through other educational mediums and materials such as kiosks and brochures.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing vegetation, wildlife, and other impacts in those areas. This decision would also reduce the potential for motorized vehicle use to impact resources in those areas. The effect of these actions would be a net beneficial impact on Special Designation areas and lands inventoried for wilderness characteristics.

PA XI: Alternative 3 would discontinue livestock grazing on currently inactive allotments, which include Buckhorn Canyon, Harper Lake, Cronese Lake, Cady Mountain, Johnson Valley, Double Mountain and Oak Creek Allotments. For these allotments, the Black Mountain Wilderness Area and the Cady Mountain WSA would benefit due to the increases in naturalness. The naturalness of the areas would no longer be impacted by the presence of a non-native species (cattle). The opportunity to experience an area without evidence of man would not be impacted by the presence of cattle. The wilderness character and the opportunity for solitude would not be affected by the sights and sounds associated with range improvement maintenance including occasional motorized equipment use in wilderness. In addition, there would not be any future potential to graze cattle in the area and range improvements could be removed to improve the areas' naturalness and provide a greater opportunity to experience an area without evidence of man. These beneficial impacts are not considered substantial, because the impacts of grazing did not substantially adversely affect the wilderness qualities at the time of area designations.

Alternative 3 Route Designation

Section 4.11.2 described the general impacts to specially-designated areas and lands inventoried for wilderness characteristics that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on biological, cultural, and scenic resources for which the special designation areas were established. The impacts to the specific resources would be the same as discussed in the subsections for those resources. By impacting the resources themselves, motorized vehicle use would potentially conflict with the management objectives established for these areas, including objectives established in activity plans, guidance, or legislation. The level of impacts would generally be proportional to the mileage of motorized routes within each area. The acreage and mileage of routes associated with the different types of Special Designation areas and lands inventoried for wilderness characteristics

under Alternative 3 is presented in Table 4.11-5. The acreage and mileage of routes within specific ACECs under Alternative 3 is presented in Table 4.11-6.

Table 4.11-5. Alternative 3 - Acreage and Mileage of Routes in Special Designation Areas

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Areas of Critical Environmental Concern	1542	22.7	2275.9	45728	1.8	17.6	1453.8
Desert Wildlife Management Areas	2975.5	119.2	4501.4	34362	6.1	0	2293.8
Wilderness Areas	0	1	1.45	0	0	8.9	428.9
Wilderness Study Areas	61.8	3.8	95.4	1500	0	0	120
Lands Inventoried for Wilderness Characteristics	353.1	7.7	524.8	178928	3.8	0.4	44.5

Table 4.11-6. Alternative 3 – Acreage and Mileage of Routes in ACECs and DWMAs

Area	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
ACEC							
Afton Canyon	13.9	0	20.2	254	0	0	34.4
Amboy Crater National Natural Landmark	0	0.5	0.7	11	0	0	0
Barstow Woolly Sunflower	0	0	0	3	0	0	110.6
Bedrock Springs	41	0	6	86	0	0	0
Bendires Thrasher Conservation Area	24.4	2.2	38.7	610	0	0	28.7
Big Morongo Canyon	5.4	0	7.9	129	0	0	24.6
Black Mountain	84.1	0	122.3	922	0	0	61.2
Calico Early Man Site	6.3	0	9.2	43	0	0	3.1
Carbonate Endemic Plants Research Natural Area	24	0	34.9	546	0	0	2.2
Christmas Canyon	7.7	0	11.2	142	0	0	0
Coolgardie Mesa	24.5	0	35.6	279	0	0	71.8
Cronese Basin	9.7	0	14.1	193	0	0	15.2

Table 4.11-6. Alternative 3 – Acreage and Mileage of Routes in ACECs and DWMAs

Area	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Desert Tortoise Research Natural Area	4.2	0	6.1	37	0	0	125.3
Fossil Falls	9.6	0	14	174	0.4	0	0
Great Falls Basin	7.6	0	11.1	158	0.4	0	6.9
Harper Dry Lake	0	0	0	0	0	0.4	1.4
Jawbone/ Butterbredt	930.5	0.9	1354.8	33307	0	16.4	681.1
Juniper Flats	8.8	2.8	16.9	951	0	0	11.4
Kelso Creek Monkeyflower	14.7	0	21.4	427	0	0	2
Last Chance Canyon	50.2	0	73	933	0	0	40.3
Manix	15.5	0	22.5	289	0	0	0.3
Middle Knob	51.2	0	74.5	1082	0.4	0.4	6.9
Mohave Monkeyflower	69.4	8.7	113.6	1109	0	0	104.9
Mojave Fishhook Cactus	0.6	0	0.9	14	0	0	3.1
Mojave Fringe-Toed Lizard	42.3	0	61.5	772	0	0	8.8
Parish's Phacelia	0.6	0	0.9	7	0	0	3
Pisgah Crater	62.4	0.7	91.8	1240	0	0	3.8
Rainbow Basin	5.2	0	7.6	61	0	0	12.5
Red Mountain Spring	1.5	0	2.2	15	0	0	4.6
Rodman Mountains Cultural Area	3.6	0	5.2	74	0	0	13.8
Rose Springs	7.1	0	10.3	120	1.4	0	0.7
Sand Canyon	4.2	0	6.1	80	0	0	5
Short Canyon	1	0	1.5	19	0	0	1.5
Soggy Dry Lake Creosote Rings	4.3	0	6.3	81	0	0	0
Trona Pinnacles	24.3	0	35.3	498	0	0	4.8
Upper Johnson Valley Yucca Rings	0	0	0	0	0	0	0
Western Rand Mountains	83.2	6.9	131.1	1048	0	0	77.9
West Paradise	0	0	0	0	0	0	0.7
Whitewater Canyon	0	0	0	0	0	0	1.2

Table 4.11-6. Alternative 3 – Acreage and Mileage of Routes in ACECs and DWMAs

Area	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
DWMA							
Fremont-Kramer	1205.2	16.3	1776.7	13771	5.6	0	1158.7
Ord-Rodman	400.2	37.6	636.8	4900	0	0	434.6
Pinto Mountains	200.4	3.8	297	2371	0	0	5.3
Superior-Cronese	1132	61.5	1736	13320	0.5	0	673.7

In Alternative 3, the majority of differences observed in the total mileage of routes within ACECs reflect more accurate mapping of the routes present within ACECs. The increase in motorized route mileage between Alternative 3 and the No Action Alternative for most ACECs represents the overall goals and objectives of the Alternative to provide a more access-based route network. For example, Bedrock Spring, Christmas Canyon, Rose Spring, and Trona Pinnacles, routes that provide connectivity through the ACECs were identified and designated for motorized route.

The Jawbone ACEC motorized routes as identified in Alternative 3 reflect a thorough mapping of all routes within the ACEC. This includes major rights-of way associated with the First and Second Los Angeles Aqueducts, several major transmission lines, access routes to private lands, access routes to renewable energy developments, and the previously designated 1985-1987 routes that did not accurately appear in the original WEMO plan. The revised network, per this alternative, was reviewed against the goals and objectives of the ACEC Plan, and is consistent with those goals. These goals include protection and enhancement of wildlife habitat and Native American values, while allowing appropriate land uses. Since the ACEC includes two OHV Open Areas, additional mitigation and minimization measures have been adopted and implemented in this ACEC to minimize impacts.

The Last Chance Canyon ACEC and West Rands ACEC likewise reflect the total available routes within the ACEC that allow for maximum access and that were previously mapped inaccurately. The routes also provide connectivity through the ACECs and TMAs where they exist.

Alternative 3 Minimization and Mitigation Measures

This alternative is further mitigated by continuing the ongoing and future partnerships between the BLM and the local non-profits and agencies to further intensive travel management, land management, and ACEC resource protection activities within the Jawbone and Western Rand Mountains ACECs and the Fremont-Kramer DWMA through such efforts as increased signing and monitoring patrols, field maintenance, facility maintenance, implementation of resource-site protection measures, and habitat restoration.

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 3. Many of these measures would act to reduce impacts to biological, cultural, and other resources for which these areas were specially designated. Measures such as

limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for impacts to biological, cultural, scenic, and other resources for which special designations were made. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific biological, cultural, and other resource impacts are considered before authorizing new motorized routes.

4.11.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on Special Designation areas is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on Special Designation areas. However, this decision would make it easier for BLM to consider impacts to Special Designation areas in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on these areas.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions on Special Designation areas under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. Because the proposed C routes northeast of the Spangler Hills Open Area are not associated with any special designations, this decision would not result in any impacts to special designation areas. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-

controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. In general, these lakebeds are not Special Designation areas. Therefore, this decision would not have any direct effect on Special Designation areas associated with the lakebeds. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction would result in allowing previously disturbed areas to become re-vegetated over time, thus gradually reducing vegetation, wildlife, and other impacts in those areas. This decision would also reduce the potential for motorized vehicle use to impact resources in those areas. The effect of these actions would be a net beneficial impact on Special Designation areas and lands inventoried for wilderness characteristics.

PA XI: Under this alternative, grazing would be discontinued on Harper Lake, Cronese Lake, and a small portion of the Johnson Valley Allotments. For the Harper Lake Allotment, the Black Mountain Wilderness Area would benefit due to the increases in naturalness. The naturalness of the areas would no longer be impacted by the presence of a non-native species (cattle). The opportunity to experience an area without evidence of man would not be impacted by the presence of cattle. The wilderness character and the opportunity for solitude would not be affected by the sights and sounds associated with range improvement maintenance including occasional motorized equipment use in wilderness. In addition, there would not be any future potential to graze cattle in the area and range improvements could be removed to improve the areas' naturalness and provide a greater opportunity to experience an area without evidence of man. These beneficial impacts are not considered substantial, because the impacts of grazing did not substantially adversely affect the wilderness qualities at the time of area designations.

Alternative 4 Route Designation

Section 4.11.2 described the general impacts to specially-designated areas and lands inventoried for wilderness characteristics that are common to all alternatives. That analysis concluded that motorized vehicles can have adverse impacts on biological, cultural, and scenic resources for which the special designation areas were established. The impacts to the specific resources would be the same as discussed in the subsections for those resources. By impacting the resources themselves, motorized vehicle use would potentially conflict with the management objectives established for these areas, including objectives established in activity plans, guidance, or legislation. The level of impacts would generally be proportional to the mileage of motorized routes within each area. The acreage and mileage of routes associated with the

different types of Special Designation areas and lands inventoried for wilderness characteristics under Alternative 4 is presented in Table 4.11-7. The acreage and mileage of routes within specific ACECs under Alternative 4 is presented in Table 4.11-8.

Table 4.11-7. Alternative 4 - Acreage and Mileage of Routes in Special Designation Areas

Resource Description	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Areas of Critical Environmental Concern	1313.3	61	1374.3	18348	5	2.5	2069.9
Desert Wildlife Management Areas	2326.2	90.3	3514.9	27798	0	5.5	2923.5
Wilderness Areas	0	2.9	4.22	0	6	0	410.9
Wilderness Study Areas	63	2.3	95	1533	0	0	119.4
Lands Inventoried for Wilderness Characteristics	253	1.8	370.6	101179	0	3.1	143.1

Table 4.11-8. Alternative 4 – Acreage and Mileage of Routes in ACECs and DWMAs

Area	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
ACEC							
Afton Canyon	14.5	2.6	24.9	336	0	0	31.3
Amboy Crater National Natural Landmark	0.5	0	0.7	11	0	0	0
Barstow Woolly Sunflower	46.6	0.7	68.8	570	0	0	61.5
Bedrock Springs	2.2	0	3.2	43	0	0	1.9
Bendires Thrasher Conservation Area	18.2	3.2	31.1	502	0	0	34.2
Big Morongo Canyon	6.8	0	9.9	164	0	0	23.2
Black Mountain	90	0	130.9	995	0	0	55.3
Calico Early Man Site	6.1	0	8.9	42	0	0	3.2
Carbonate Endemic Plants Research Natural Area	1.0	11.7	18.5	331	0	0	13.4
Christmas Canyon	0.2	0	0.3	4	0	0	7.5
Coolgardie Mesa	23.6	1.6	36.7	290	0	0	71.2
Cronese Basin	11.0	0.5	16.7	238	0	0	13.2

Table 4.11-8. Alternative 4 – Acreage and Mileage of Routes in ACECs and DWMAs

Area	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Desert Tortoise Research Natural Area	1.1	0	1.6	16	0	0	126.7
Fossil Falls	3.7	0	5.4	71	0	0	6.2
Great Falls Basin	5.3	0	7.7	127	0	0	9.7
Harper Dry Lake	0.4	0	0.6	0	0	0	1.4
Jawbone/Butterbredt	393.5	6.4	581.7	8855	0	1.5	1209.5
Juniper Flats	9.4	0.4	14.3	222	0	0	13.2
Kelso Creek Monkeyflower	9.6	0	14	211	0	0	7
Last Chance Canyon	22.5	0.7	33.7	456	4.2	0	63.1
Manix	12.7	0	18.5	254	0	0	3
Middle Knob	31.2	0	45.4	657	0	0	28.8
Mohave Monkeyflower	66.7	3.8	102.5	1062	0	0	112.8
Mojave Fishhook Cactus	0.5	0	0.7	12	0	0	3.1
Mojave Fringe-Toed Lizard	17.9	0	26	313	0	0	32.5
Parish's Phacelia	2.3	0.6	4.2	35	0	0	0.5
Pisgah Crater	58.4	0	84.9	1175	0	0	8.5
Rainbow Basin	0.5	10.6	16.1	126	0	0	6.6
Red Mountain Spring	1.2	0	1.7	10	0	0.6	4.4
Rodman Mountains Cultural Area	3.6	0	5.2	74	0	0	13.9
Rose Springs	3.1	0	4.5	40	0	0	6
Sand Canyon	3.7	0	5.4	73	0	0	5.5
Short Canyon	0.7	0	1	14	0.8	0	0.9
Soggy Dry Lake Creosote Rings	0	0	0	6	0	0	4.4
Trona Pinnacles	14.6	0	21.2	314	0	0	14.4
Upper Johnson Valley Yucca Rings	0	0	0	0	0	0	0
Western Rand Mountains	42	18.2	87.6	699	0	0	0.7
West Paradise	0	0	0	0	0	0	110.2
Whitewater Canyon	0	0	0	0	0	0	1.2

Table 4.11-8. Alternative 4 – Acreage and Mileage of Routes in ACECs and DWMAs

Area	Motorized	Authorized/ Administrative	Direct Route Acreage	Stopping/ Parking/ Camping Acreage	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
DWMA							
Fremont-Kramer	928.3	24.1	1385.3	11027	0	5.5	1432.9
Ord-Rodman	316	18.7	486.6	3833	0	0	543.1
Pinto Mountains	126.4	8.1	195.6	1606	0	0	74.6
Superior-Cronese	956.3	39.4	1448.3	11332	0	0	872.9

Alternative 4 Minimization and Mitigation Measures

This alternative is further mitigated by continuing the ongoing and future partnerships between the BLM and the local non-profits and agencies to further intensive travel management, land management, and ACEC resource protection activities within the Jawbone and Western Rand Mountains ACECs and the Fremont-Kramer DWMA through such efforts as increased signing and monitoring patrols, field maintenance, facility maintenance, implementation of resource-site protection measures, and habitat restoration.

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 4. Many of these measures would act to reduce impacts to biological, cultural, and other resources for which these areas were specially designated. Measures such as limiting new ground disturbance in DWMAs, disguising closed routes, and implementing stopping and parking limits of 50 feet from route centerlines in DWMAs and 100 feet from route centerlines outside of DWMAs would reduce soil compaction or disturbance in currently undisturbed areas, thus minimizing the potential for impacts to biological, cultural, scenic, and other resources for which special designations were made. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific biological, cultural, and other resource impacts are considered before authorizing new motorized routes.

4.12 Noise

4.12.1 Introduction

Affected Environment Summary

Section 3.12 describes the existing conditions with respect to noise in the planning area. Generally, transportation-related noise sources, including road traffic, railroads, and aircraft, characterize the ambient noise environment of the planning area (SCAG 2003). Ambient noise levels associated with traffic and railroads are expected to be limited to areas near major transportation arteries, and are likely not applicable to most of the planning area. Most of the public land in the planning area is relatively far from these noise sources, and would be expected to exhibit ambient noise levels that are more characteristic of rural areas. Military and commercial aircraft also incrementally contribute to existing ambient noise in the planning area, and these noises would occur in both developed and rural areas of the planning area.

Methodology

The 2005 WEMO EIS analyzed the effect of noise, including OHV and motorized vehicle noise, on wildlife. The 2005 WEMO EIS concluded that closure of routes under the WEMO plan would reduce OHV and motorized vehicle noise, and thus decrease noise impacts to wildlife. The EIS did not provide an analysis of noise impacts to sensitive receptors or residents. The Court's Summary Judgment and Remedy Order did not specifically reach conclusions, or provide direction, regarding the sufficiency of the noise impact analysis.

For this SEIS for the WMRNP, BLM performed the following:

- The route designation process for each alternative included evaluation of the location of each route with respect to receptors and residences that could be sensitive to OHV noise.
- Conducted route evaluation and quantified the miles of motorized routes that could potentially impact sensitive receptors and residents, across four alternative route networks, ranging from 4,293 to 10,428 miles in size.
- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, and changes in conditions within the planning area. This additional information is incorporated into the evaluation in Section 4.12.2 below.

4.12.2 Impacts Common to All Alternatives

With respect to the transportation network in the WEMO Planning Area, the types of noises from use of routes on public lands are generally intermittent noises created by the passage of single vehicles or vehicles in small groups on an irregular and infrequent basis. In developed areas or areas near major highways that have higher ambient noise levels, the additional noise created by these vehicles is expected to have little or no adverse impact. However, in remote areas with low ambient noise levels, the additional noise may have an adverse impact on wildlife or sensitive receptors. This can especially be the case where routes used for organized activities create greater use levels, and therefore greater noise impacts, even if these impacts are only intermittent.

Some land uses are considered more sensitive to ambient noise levels than others due to the types of activities typically involved. Residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, natural areas, parks, and outdoor recreation areas are generally more sensitive to noise than are commercial and industrial land uses. Consequently, the noise standards for sensitive land uses are more stringent than those for less sensitive uses, such as commercial and industrial (SCAG 2003).

Certain human activities and sensitive land uses (e.g., residences, schools, and hospitals) generally require lower noise levels. A noise level of L_{dn} 55 to 60 dB on the exterior is the upper limit for speech communication to occur inside a typical home. In addition, social surveys and case studies have shown that complaints and community annoyance in residential areas begin to occur at L_{dn} 55 dB (SCAG 2003).

In general, the surrounding land uses dictate what noise levels would be considered acceptable or unacceptable. Lower ambient noise levels are generally expected in rural or suburban areas, such as the areas used for motorized vehicle recreation on public lands. Therefore, the difference between ambient noise and noise associated with motorized vehicle use is expected to be higher in those areas. Although fewer sensitive human receptors are expected in those areas than in developed areas, the impacts on those receptors would be higher.

Several studies have documented the potential impacts of noise on wildlife, including studies on species that are found within the planning area. A Federal Highway Administration (FHWA) literature review in 2011 summarized the effects of noise on a variety of species as part of an analysis of highway traffic noise impacts. That study summarized the sensitivity of various taxa to noise as follows:

- Mammals – sensitive to noise levels as low as 20dB.
- Birds – sensitive to noise levels down to 0 to 10dB.
- Reptiles – sensitive to noise levels at 40 to 50dB.
- Amphibians – sensitive to noise levels ranging from 10 to 60dB.

Wildlife reactions to noise can include alert reactions, physiological indicators of stress, and hearing loss. In some species, such as birds, noise sources can mask their songs, which are used to communicate pair bond formation, territorial defense, danger, and advertisement of food sources. In mammals, noise generally causes individuals to avoid areas, thus causing modifications in occupied habitat.

The 1994 Desert Tortoise Recovery Plan (USFWS 1994) listed the following potential noise impacts, without any data to support the conclusions. Noise impacts may cause disruption of communication and damage to the auditory system, which may affect an individual's ability to effectively communicate and respond in appropriate ways. In several places, the Recovery Plan referred to "noise pollution" or listed noise as one of the potential impacts, but provided no specific data. The 2011 Recovery Plan indicated that no additional data on noise impacts had been developed. In his threats analysis, Dr. Boarman (2002) reiterated the information given in the 1994 Recovery Plan, which is recited above, plus the following observations. A study conducted by Bowles et al. (1999) showed very little behavioral or physiological effect on tortoises of loud noises that simulated jet over flights and sonic booms. They also demonstrated that tortoise hearing is fairly sensitive (mean = 34 dB SPL) and was most sensitive to sounds

between 125 and 750 Hz, well within the range of the fundamental frequency of most of their vocalizations. The authors concluded that tortoises probably could tolerate occasional exposure to sonic boom level sounds (140 dB SPL), but some may suffer permanent hearing loss from repeated longterm exposure to loud sounds such as from OHVs and construction blasts. Boarman (2002) also indicated noise or vibration might affect tortoises that live alongside railroads, but found there were no studies to document the impact. He concluded, it is not known if train noise negatively affects the behavior, audition, or reproductive success of these tortoises.

In general, impacts on wildlife in rural areas, including areas of public lands used for motorized recreation, would be expected to be higher than in developed areas. This is because ambient noise levels are lower in rural areas, and therefore the difference between ambient noise and motorized vehicle noise is greater.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. In that analysis, noise impacts, in the form of proximity of OHV use to sensitive receptors, were considered as a criterion in determining which routes would remain open and which would be closed under the various alternatives.

There are no impacts to noise from the grazing alternatives in PA XI; therefore, there is no further discussion of PA XI in this section.

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4. For impacts resulting from noise, these include:

- Modify access to a less impacting or more controlled designation;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Construct and/or Install Educational information such as signs;
- Install speed bumps or similar mechanisms to slow traffic through an area, and
- Determine that no additional minimization and mitigation measure is needed based on area or site evaluation.

Residual Impacts After Implementation of Mitigation Measures

Residual noise impacts to wildlife and to sensitive receptors would continue after application of mitigation measures. Over time as fewer older motorcycles are being used, noise impacts can be expected to decrease because of the current motorcycle noise standards. Although impacts would be reduced, motorized vehicles use would still occur within wildlife habitat, and could impact wildlife individuals due to noise effects. Motorized vehicle use would also still occur in close proximity to sensitive receptors.

4.12.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct noise impacts to sensitive receptors or residents. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider noise impacts and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may reduce noise impacts to sensitive receptors by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. However, no current noise impacts are known along the current designated "C" routes or the designated Rand-Fremont routes system, therefore no noise impacts to sensitive receptors are anticipated as a result of the No Action alternative.

Alternative 1 Route Designation

The evaluation of impacts common to all alternatives concluded that noise from motorized vehicles can have adverse impacts on sensitive human receptors and on wildlife resources. The level of impact would depend on the context, specifically the ambient noise levels associated with other noise sources at each location. The level of impact would also be directly proportional to the proximity of the noise source to receptors. The mileage of routes associated with wildlife receptors under the No Action Alternative was presented above in Tables 4.4-14

and 4.4-15. The mileage of routes associated with sensitive human receptors under the No Action Alternative is presented in Table 4.12-1.

Table 4.12-1. Alternative 1 - Miles of Routes in Proximity to Sensitive Receptors and Residents for Noise Impacts

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Route Within 1 Mile of Sensitive Receptor	23.2	0	0	0	106.6
Miles of Route Within 300 feet of Residences	126.3	4.8	0	0	419.8

Alternative 1 Minimization and Mitigation Measures

Table 2.3-1 describes the network-wide minimization and mitigation measures that are currently specified in the CDCA Plan, WEMO Plan, and/or the Court's Remedy Order, and which are therefore applicable under Alternative 1, the No Action Alternative. Whether they were applied during the route designation process or are mitigation measures, these measures would act to reduce the proximity of noise sources to sensitive receptors. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific noise impacts, including impacts to wildlife and noise in close proximity to sensitive human receptors, are considered before authorizing new motorized routes.

4.12.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct noise impacts. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider noise impacts and use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may reduce noise impacts by facilitating adaptive management changes in response to changing on-the-ground

conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The noise impacts of each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified noise impacts to sensitive receptors or wildlife. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The noise impacts of these decisions under Alternative 2 are as follows:

PA VII: Competitive events may authorize large numbers of vehicles traveling at a high rate of speed, which has the potential to increase noise levels in the local area. While these levels may be substantial, they will also be localized and short in duration. It is anticipated that the overall number of SRP applications will not increase, just that several applicants may request to use the C routes in addition to the adjacent Open Area for courses. This means that there should be no measurable increase in the number of OHVs using public land in the area, and there would be no direct noise impacts.

Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. Because there are no sensitive receptors associated with the C routes northeast of the Spangler Hills Open Area, this decision would not result in any noise impacts. Seasonal restrictions would reduce potential noise impacts to wildlife, including desert tortoise and Mohave ground squirrel, during months when these species are active.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. An event has not been run in this corridor since the listing of the desert tortoise as threatened in

1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any noise impacts by increasing the recreational use of routes in other areas.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. The dry lakebeds are not located near any potential sensitive receptors, so use of them would not result in adverse noise impacts. Because Koehn lakebed is currently receiving relatively light use, the amount of displaced use to other routes would be low. Therefore, this plan amendment decision is not expected to have an indirect, adverse noise impact on sensitive receptors or wildlife by increasing the recreational use of routes in other areas.

PA IX: There would be no change to access to the Rand Mountains-Fremont Valley Management Area under Alternative 2. No current noise impacts are known along the designated Rand-Fremont routes system, therefore no noise impacts to sensitive receptors are anticipated as a result of Alternative 2.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative may have a slight beneficial effect to noise impacts on wildlife by limiting the incursion of motorized vehicles outside of the designated routes.

Alternative 2 Route Designation

Section 4.12.2 described the general impacts associated with noise that are common to all alternatives. That analysis concluded that noise from motorized vehicles can have adverse impacts on sensitive human receptors and on wildlife resources. The level of impact would depend on the context, specifically the ambient noise levels associated with other noise sources at each location. The level of impact would also be directly proportional to the proximity of the noise source to the receptors. The mileage of routes associated with wildlife receptors under Alternative 2 was presented above in Tables 4.4-17 and 4.4-18. The mileage of routes associated with sensitive human receptors under Alternative 2 is presented in Table 4.12-2.

Table 4.12-2. Alternative 2 - Miles of Routes in Proximity to Sensitive Receptors and Residents for Noise Impacts

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Route Within 1 Mile of Sensitive Receptor	19.2	0.1	8.5	0	105.2
Miles of Route Within 300 feet of Residences	80.0	5.8	1.9	0	474.8

Alternative 2 Minimization and Mitigation Measures

Table 2.3-5 describes the network-wide minimization and mitigation measures that would be applied under Alternative 2. Many of these measures would act to reduce the proximity of noise sources to sensitive receptors or residences. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific noise impacts, including impacts to wildlife and noise in close proximity to sensitive human receptors, are considered before authorizing new motorized routes.

4.12.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on noise impacts is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The noise impacts of these decisions under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. The proposed C routes that originate from the city of Ridgecrest pass within a ¼ mile of sensitive receptors such as the Cerro Coso Community college, but are not within 300 feet of any private residences. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known the noise impacts of those routes would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. In general, the lakebeds are not associated with wildlife or sensitive receptors, so modification of access would not have adverse or beneficial noise impacts.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. Eliminating the permit requirement would not result in designation of additional routes. This decision may result in an increase in recreational use of the existing routes, but this increase is expected to be minor. Therefore, this decision is not expected to have any noise impacts to sensitive receptors or wildlife.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction may have a slight beneficial effect to noise impacts on wildlife by limiting the incursion of motorized vehicles outside of the designated routes.

Alternative 3 Route Designation

Section 4.12.2 described the general impacts associated with noise that are common to all alternatives. That analysis concluded that noise from motorized vehicles can have adverse impacts on sensitive human receptors and on wildlife resources. The level of impact would depend on the context, specifically the ambient noise levels associated with other noise sources at each location. The level of impact would also be directly proportional to the proximity of the noise source to the receptors. The mileage of routes associated with wildlife receptors under Alternative 3 was presented above in Tables 4.4-20 and 4.4-21. The mileage of routes associated with sensitive human receptors under Alternative 3 is presented in Table 4.12-3.

Table 4.12-3. Alternative 3 - Miles of Routes in Proximity to Sensitive Receptors and Residents for Noise Impacts

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Route Within 1 Mile of Sensitive Receptor	77.2	0	7.3	0	47.1
Miles of Route Within 300 feet of Residences	455	12.6	4.5	0	90.8

Alternative 3 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 3. Many of these measures would act to reduce the proximity of noise sources to sensitive receptors or residences. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific noise impacts, including impacts to wildlife and noise in close proximity to sensitive human receptors, are considered before authorizing new motorized routes.

4.12.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on noise impacts is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on noise impacts to sensitive receptors or wildlife. However, this decision would make it easier for BLM to consider noise impacts in future route designation decisions in this intensively used area, and thus have an indirect, beneficial effect on noise impacts.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The noise impacts of these decisions under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. These proposed C routes are not associated with sensitive receptors, so would not result in noise impacts. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. In general, the lakebeds are not associated with wildlife or sensitive receptors, so modification of access would not have adverse or beneficial noise impacts. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction may have a slight beneficial effect to noise impacts on wildlife by limiting the incursion of motorized vehicles outside of the designated routes.

Alternative 4 Route Designation

Section 4.12.2 described the general impacts associated with noise that are common to all alternatives. That analysis concluded that noise from motorized vehicles can have adverse impacts on sensitive human receptors and on wildlife resources. The level of impact would depend on the context, specifically the ambient noise levels associated with other noise sources at each location. The level of impact would also be directly proportional to the proximity of the noise source to the receptors. The mileage of routes associated with wildlife receptors under Alternative 4 was presented above in Tables 4.4-23 and 4.4-24. The mileage of routes associated with sensitive human receptors under Alternative 4 is presented in Table 4.12-4.

Table 4.12-4. Alternative 4 - Miles of Routes in Proximity to Sensitive Receptors and Residents for Noise Impacts

Resource Description	Motorized	Authorized/ Administrative	Non-Motorized	Non-Mechanized	Closed (Transportation Linear Disturbance)
Miles of Route Within 1 Mile of Sensitive Receptor	25.9	0.8	2.4	0	100.8
Miles of Route Within 300 feet of Residences	126.4	6.1	0.3	0.3	411.2

Alternative 4 Minimization and Mitigation Measures

Table 2.3-8 describes the network-wide minimization and mitigation measures that would be applied under Alternative 4. Many of these measures would act to reduce the proximity of noise sources to sensitive receptors or residences. Requirements for plan amendment and NEPA reviews of future major route network changes would ensure that specific noise impacts, including impacts to wildlife and noise in close proximity to sensitive human receptors, are considered before authorizing new motorized routes.

4.13 Travel and Transportation Management

4.13.1 Introduction

Affected Environment Summary

Section 3.13 describes the current travel and transportation characteristics within the planning area. The transportation network in the WEMO Planning area supports the needs of residents and visitors for accessing housing, employment locations, and recreation, as well as supporting the transport of raw materials, food, fuels, and commercial products. The Motorized Vehicle Access (MVA) Element of the CDCA Plan established overarching goals and objectives to support these needs, including providing for constrained motorized vehicle access in a manner that balances the needs of all desert users, private landowners, and other public agencies, and continuing to recognize ways of access and opportunities for commercial development on public lands. To accomplish these objectives, it is necessary that the travel and transportation network provide access to all private lands and authorized users within the planning area, as well as connect seamlessly with the travel and transportation networks on neighboring jurisdictional lands. Neighboring jurisdictions in the region include adjacent BLM-managed lands outside of the West Mojave; Interstate Highways and U.S. Routes; state, county; and city routes; military installations; and lands managed by the USDA Forest Service, National Park Service, and other federal, state, and local land management agencies.

Methodology

The 5,098 mile route network evaluated in the 2005 WEMO EIS was developed to include consideration of access to mining claims, private lands, and other authorized land uses. The Court's Summary Judgment and Remedy Order did not specifically reach conclusions, or provide direction, regarding the sufficiency of this analysis.

For this SEIS for the WMRNP, BLM performed the following:

- The route designation process for each alternative included evaluation of the need for the route to provide continuity to transportation networks in adjacent jurisdictions, and access to private lands and authorized land uses.
- Re-evaluated the 2005 WEMO analysis, and supplemented it with additional information from resource specialists, public comments, and changes in conditions within the planning area. This additional information is incorporated into the evaluation in Section 4.13.2 below.

4.13.2 Impacts Common to All Alternatives

Impacts of the WMRNP with respect to travel and transportation management are directly related to the degree to which the network provides access to private lands and authorized users, and connects to the system in adjacent jurisdictions. Any network decision that eliminates motorized access to private land or authorized users, or that substantially increases the distance that must be traveled over the current distance, would be considered an adverse impact to those landowners and authorized users. Similarly, network decisions that fail to maintain connections to adjacent jurisdictions would be an adverse impact not only to users of those routes, but to the

adjacent jurisdictional lands. This is because a failure to maintain connections is likely to lead to route proliferation on the adjacent jurisdictional lands.

Chapter 2 discusses the general resource protection and motorized access objectives that were incorporated into the development of the transportation network alternatives. These objectives were used to inform decisions regarding which linear features would be included in the motorized, non-motorized, and non-mechanized transportation network, and which features would be closed (i.e., designated as transportation linear disturbances), under each alternative. The goals and objectives for both Alternatives 2 and 3 include emphasizing through access on public lands to establish a comprehensive network, and this objective was considered in development of the route network for each alternative. Because this objective is common to all alternatives, there are no differences among the route alternatives with respect to completeness of the transportation network, and no adverse impact to travel and transportation management. Therefore, no alternative-specific minimization and mitigation measures were developed to address travel and transportation management impacts.

There are no impacts to travel and transportation management from the grazing alternatives in PA XI; therefore, there is no further discussion of PA XI in this section.

Resource-Specific Minimization and Mitigation Measures

Resource-specific minimization and mitigation measures that were considered as part of the route designation process for each alternative, and that will be considered for each route during implementation of the WMRNP, were described in Table 2.1-4. For potential conflicts resulting from multiple users, these include:

- Modify access to a less impacting designation;
- Limit the route to lower intensity use or prohibit Special Recreation Permitted use;
- Minimize overlapping uses by separating in time or space, or through a permitting mechanism;
- Add or identify alternative non-motorized or non-mechanized trail access;
- Construct or Install Educational information such as signs;
- Install step-over;
- Monitor the route for signs of increasing impacts to a sensitive resource; and
- Determine that no additional minimization and mitigation measure is needed based on site evaluation.

Residual Impacts After Implementation of Mitigation Measures

Because no adverse impacts to travel and transportation management were identified, there would be no residual impacts after mitigation measures were implemented. The route networks under each alternative were designed to ensure continuity between the route network and adjacent jurisdictions, and to ensure continued access to private land. The potential mitigation measures are not expected to adversely impact the overall connectivity of the network.

4.13.3 Impacts Associated with the No Action Alternative

Alternative 1 Plan Amendment

Under the No Action Alternative, none of the proposed plan amendment decisions would be adopted.

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to access to private land or adjacent jurisdictions, or other features of the travel and transportation network. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider access to private land or adjacent jurisdictions and other use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit travel and transportation management by facilitating adaptive management changes in response to changing on-the-ground conditions. By not adopting these decisions under the No Action Alternative, these potential beneficial effects would not be achieved. In addition, by not adopting these decisions, the CDCA Plan would not be amended to conform to current policy or regulation.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. However, there are no currently known impacts to travel and transportation management associated with those activities and areas, therefore no impacts to travel and transportation management are anticipated as a result of the No Action alternative.

Alternative 1 Route Designation

The No Action Alternative would adopt the authorized travel network as it currently exists, and would also maintain the current goals and objectives, consistent with applicable guidance and policies, which are used to consider new route authorizations in the future. Generally, commercial, recreational, and private landowner access needs are served by the current route network, and it provides connectivity with adjacent jurisdictions and networks. Mechanisms are in place to address future needs for commercial and private landowner access without plan

amendment, and to deal with localized safety and resource issues. Future recreational access would be addressed through plan amendment, and changes would be more cumbersome to enact. A strategy is in place for the management of the current network. It includes signing, enforcement, monitoring, and maintenance plan components, which are posted at http://www.blm.gov/ca/st/en/fo/cdd/wemo_court_mandates.html. Key factors in assessing the adequacy of a transportation and travel network are connectivity, safety, and user information.

4.13.4 Impacts Associated with Alternative 2

Alternative 2 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Therefore, these decisions would not result in direct impacts to travel and transportation management. These decisions would only define the route designation process or framework under which future on-the-ground actions are considered.

In general, the purposes of these decisions are to:

- Resolve inconsistencies between planning language and route designations;
- Clarify the manner in which future route network modifications consider travel and transportation management and other use factors specified in 43 CFR 8342.1;
- Facilitate communication of limitations of route use to the public, and
- Facilitate BLM's ability to enforce route use limitations.

These amendments are expected to have no adverse effect on resources, and may benefit travel and transportation management by facilitating adaptive management changes in response to changing on-the-ground conditions. By adopting these decisions, the CDCA Plan would be amended to conform to current policy and regulation.

As a result of the modification of the language limiting the route network to existing routes, new routes could potentially be designated in locations with no existing routes, and could have adverse impacts to localized resources near that route. New routes may be established to provide access for new authorized uses, or to avoid identified impacts to resources. The impacts to travel and transportation management of each new route would be evaluated as part of the BLM's consideration of the application for land use authorization. As part of that evaluation, BLM would consider the potential impacts of the new route as required by 43 CFR 8342.1, potential alternatives to provide the necessary access, and minimization and mitigation measures to address any identified impacts to travel and transportation management. In the case of routes established to provide access to authorized uses, the duration of the designation of the new route would be the same as authorized land use it is intended to support. Once the term of the authorized land use expires, the route would generally be considered for closure, and the terms and conditions of the authorized land use would require the lessee, permittee, or ROW holder to rehabilitate the route. BLM may also determine at a later date, consistent with 43 CFR 8342.1, that the route provides necessary access for some other reason and could designate the route

accordingly, releasing the authorized land user from their requirement to rehabilitate the route. In the case of routes established to address impacts to resources, the new route may be permanent.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The travel and transportation management impacts of these decisions under Alternative 2 are as follows:

PA VII: It is anticipated that the overall number of SRP applications will not increase. This means that there should be no measurable increase in the number of OHVs using public land in the area. Additionally, designating the C routes does not authorize individual SRP events to use these routes, and additional analysis will occur as part of the SRP permitting process. Therefore, there should be no direct impacts to travel and transportation management.

Under Alternative 2, there would be a seasonal restriction placed upon the use of the currently designated C routes for competitive motorized events managed under a SRP. These routes would be available for use by competitive motorized events during the months of November, December, and January. The designations of competitive C routes would not expand or interfere with the Travel and Transportation network. The proposed routes are already being considered for inclusion in the system that would be available for casual use by the general public. The amendment would only make them available for use under a SRP for a motorized competitive event.

Since OHV competitive events conducted in other OHV Open Areas would be limited to inside the Open Area boundaries under this alternative, the remaining designated long-distance race corridor, the Johnson Valley to Parker Valley Corridor would be removed under Alternative 2. An event has not been run in this corridor since the listing of the desert tortoise as threatened in 1989; therefore, other routes and areas within the planning area are not anticipated to receive increased use for recreation as a result of the elimination of this competitive event route. Therefore, this plan amendment decision would not have any effect on travel and transportation management by increasing the recreational use of routes in other areas.

PA VIII: Alternative 2 would designate Koehn Lakebed as closed to motorized vehicles. There would be no change to the use of Cuddeback, Coyote, or Chisholm Trail Lakes. Although the route network providing access to the Koehn lakebed would still be complete, the closure of the lakebeds may result in closure of through routes, thus increasing the distance of travel for motorized users traveling from one side of the lakebed to the other. Therefore, this decision could have a direct, adverse impact on the travel and transportation network in that area, in close proximity to the lakebed. However, because Koehn lakebed is currently receiving relatively light use, that impact is expected to be small.

PA IX: There would be no change to access to the Rand Mountains-Fremont Valley Management Area under Alternative 2. There are no currently known impacts to travel and transportation management associated with the area, therefore no impacts to travel and transportation management are anticipated as a result of Alternative 2.

PA X: Alternative 2 would limit stopping and parking to previously disturbed areas within 50 feet from the route centerline, both inside and outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 50 feet. Camping would be allowed adjacent to designated routes in previously disturbed areas, not to exceed 50 feet from the centerline, throughout the WEMO Planning Area. This reduction from the limits in the No Action Alternative is not expected to have any effect on motorized use of routes to access private landowners, authorized land uses, or adjacent jurisdictions, and would therefore not have any impact on the travel and transportation network.

Alternative 2 Route Designation

The route network in Alternative 2 was designed to ensure connectivity to adjoining networks, and to ensure access to private land and authorized users throughout the WEMO Planning area. However, because Alternative 2 was designed to maximize resource protection, resulting in closure of a larger number of routes, the means of access to adjoining networks, private land, or authorized land uses may require a longer route of travel by the user to bypass sensitive areas. Similarly, the various alternatives differ in their goals and objectives which would be used to evaluate future route authorizations, and in their minimization and mitigation measures. Under Alternative 2, application of the goals, objectives, and minimization and mitigation measures may result in longer routes of travel, time of day or seasonal restrictions, or other restrictions which users may find to be adverse impacts. Nothing in the goals, objectives, or minimization and mitigation measures would result in BLM choosing to not authorize some means of access to any future private land owner or authorized user. As a result, any adverse impact is expected to be minor.

4.13.5 Impacts Associated with Alternative 3

Alternative 3 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. These decisions would be the same under Alternative 3 as for Alternative 2, and therefore effect of these decisions on travel and transportation management is the same as discussed for Alternative 2.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions to travel and transportation management under Alternative 3 are as follows:

PA VII: Under Alternative 3, there would be C routes available for competitive motorized events managed under a SRP in three distinct areas: the areas to the northeast of the Spangler Hills Open Area; the Summit Range plus the area east of Highway 395; and the urban interface area between the community of Ridgecrest and the Spangler Hills Open Area. These actions

would not result in any adverse impact on access to private landowners, authorized land uses, or adjacent jurisdictions. In addition, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but may be offset by additional routes in the planning area that are identified as competitive use open routes through the route designation process. Because the locations of replacement routes are not known the travel and transportation impacts of those routes would be considered through the route designation process.

PA VIII: Under Alternative 3, Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". Alternative 3 would also designate Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds as open to motorized use. Although the route network providing access to Koehn lakebed would still be complete, the closure of the lakebeds may result in closure of through routes, thus increasing the distance of travel for motorized users traveling from one side of the lakebed to the other. Therefore, this decision could have a direct, adverse impact on the travel and transportation network in close proximity to Koehn lakebed. Conversely, allowing motorized use on Cuddeback, Coyote, and Chisholm Trail Lake lakebeds would likely increase access to private landowners, authorized land uses, and adjacent jurisdictions near those areas. Therefore, the amendment would have a direct, beneficial impact in those areas.

PA IX: Under Alternative 3, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. Eliminating the permit requirement may result in an increase in recreational use of the existing routes, but this increase is expected to be minor. Therefore, this decision is not expected to have any effect on access private landowners, authorized land uses, or adjacent jurisdictions.

PA X: Alternative 3 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This would be a reduction from the limits in the No Action Alternative, but would still allow a larger area of disturbance than Alternative 2 (100 feet in Alternative 3 versus 50 feet in Alternative 2). This reduction is not expected to have any effect on motorized use of routes to access private landowners, authorized land uses, or adjacent jurisdictions, and would therefore not have any impact on the travel and transportation network.

Alternative 3 Route Designation

The route network in Alternative 3 was designed to maximize access for recreational users, including ensuring connectivity to adjoining networks, and access to private land and authorized users throughout the WEMO Planning area. Because Alternative 3 was designed to maximize access, the route network results in closure of few routes relative to the other alternatives. Similarly, the various alternatives differ in their goals and objectives which would be used to evaluate future route authorizations, and in their minimization and mitigation measures. Under Alternative 3, application of the goals, objectives, and minimization and mitigation measures would likely result in more direct routes, and fewer time of day or seasonal restrictions than the

other alternatives. As a result, Alternative 3 would have the fewest adverse impacts to travel and transportation management.

4.13.6 Impacts Associated with Alternative 4

Alternative 4 Plan Amendment

Of the decisions being considered in the WMRNP, five of the decisions (Modification of Language Limiting Route Network to Existing Routes; Incorporation of the TTM Process; Updating OHV Area Designations; Identification of Plan Amendment Triggers; and Designation of TMAs) would amend BLM's procedures for managing travel and transportation management in the planning area, and would not authorize any on-the-ground actions. Except for the designation of TMAs, these decisions would be the same under Alternative 4 as for Alternatives 2 and 3, and therefore effect of these decisions on motorized use of routes to access private landowners, authorized land uses, or adjacent jurisdictions is the same as discussed for those alternatives.

Under Alternative 4, the boundaries of the nine TMAs included in Alternative 4 are similar to those in Alternatives 2 and 3, with the exception that TMA 7 (Ridgecrest, El Paso, Rands, and Red Mountain sub-regions) would be split into two separate TMAs. This decision would designate the current Coordinated Access Planning Area (CAPA) as a separate TMA. The CAPA area consists of the Ridgecrest and El Paso sub-regions, which would be split from the Rands and Red Mountain sub-regions, thus creating two separate TMAs. This decision would be made to facilitate BLM's ability to manage intense recreation use, public interest, and local agency interest in this area near Ridgecrest, and would therefore have no direct effect on travel and transportation management. Because this decision is intended to improve BLM's management of the transportation network in this intensively used area, it would have an indirect, beneficial effect on travel and transportation management.

Five of the Plan Amendment decisions being considered in the WMRNP would modify on-the-ground authorization of livestock grazing and motorized vehicle use. These include designation of "C" routes, the Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-Johnson Valley South Unit Competitive Event Connectors, changes to designations on dry lakes, access to the Rand Mountains-Fremont Valley Management Area, changes in allowable stopping, parking, and camping distances, and changes to the livestock grazing program. The impacts of these decisions to travel and transportation management under Alternative 4 are as follows:

PA VII: Under Alternative 4, the C routes that are to the northeast of the Spangler Hills Open Area above the Randsburg Wash Road and those found within the Summit Range and east of Highway 395 would be available for competitive motorized events managed under a SRP. The Stoddard Valley-to-Johnson Valley and Johnson Valley North Unit-to-South Unit Competitive Event Connectors would also be available. The Johnson Valley to Parker Valley Race Corridor would be removed, but the decision would identify a specific route for the speed-controlled connector between the remaining Johnson Valley OHV Area and the Stoddard Valley OHV Open Area, with appropriate mitigation measures. These actions would not result in any adverse impact on access to private landowners, authorized land uses, or adjacent jurisdictions.

PA VIII: Under Alternative 4, Cuddeback, Coyote, and Chisholm Trail Lake Lakebeds would all be designated as open to motorized use. Allowing motorized use on these lakebeds would likely increase access to private landowners, authorized land uses, and adjacent jurisdictions near

those areas. Therefore, this decision would have a direct, beneficial impact on the travel and transportation network. Koehn Lakebed would be designated as "Closed to Motor Vehicle Access, except by Authorization, including Special Recreation Permit". The impacts of the closure of Koehn Lakebed would be the same as discussed for Alternative 2.

PA IX: Under Alternative 4, the visitor use permit program established for motor vehicle access to the Rand Mountains would be eliminated. The impacts of this decision would be the same as those discussed for Alternative 3.

PA X: Alternative 4 would limit camping to previously disturbed areas within 50 feet from the route centerline inside DWMAs, while stopping and parking would be limited to within 50 feet of the centerline within DWMAs. Stopping, parking, and camping would be limited to 100 feet from the route centerline outside of DWMAs. This would be a reduction in the limits that are currently authorized outside of DWMAs from 300 feet to 100 feet. This reduction is not expected to have any effect on motorized use of routes to access private landowners, authorized land uses, or adjacent jurisdictions, and would therefore not have any impact on the travel and transportation network.

Alternative 4 Route Designation

The route network in Alternative 4 was designed to ensure connectivity to adjoining networks, and to ensure access to private land and authorized users throughout the WEMO Planning area. In addition, it was developed to specifically address concerns raised by stakeholders regarding maintenance of access on specific routes. As a result, Alternative 4 would not have any adverse impacts to travel and transportation management.

4.14 Cumulative Impact Analysis

The cumulative impact assessment in the SEIS analyzes how the environmental conditions within the WEMO Planning area may be affected by the WMRNP in combination with other activities that are likely to take place.

NEPA identifies three types of potential impacts: direct, indirect, and cumulative. A cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of which agency (federal or non-federal) or person undertakes such other actions (40 CFR Section1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 CFR Section1508.7.

4.14.1 Methodology

Under NEPA, the approach for analyzing cumulative effects involves establishing a geographic scope and timeframe for the each cumulative effects issue (H-1790-1 – National Environmental Policy Act Handbook (BLM), section 6.8.3). "The geographic scope is generally based on the natural boundaries of the resource affected, rather than jurisdictional boundaries" and may be different for each cumulative effect issue (H-1790-1, section 6.8.3.2). "Timeframes, like geographic scope, can vary by resource" (H-1790-1, section 6.8.3.3). Once the geographic and temporal scopes have been established, "[t]he cumulative effects analysis considers past, present, and reasonably foreseeable future actions that would affect the resource of concern within the geographic scope and the timeframe of the analysis." The analysis must include other federal actions, and non-federal (including private) actions. (40 CFR 1508.7).

Under NEPA, past actions must be considered to provide context for the cumulative effects analysis (40 CFR 1508.7). Past actions can usually be described by their aggregate effect without listing or analyzing the effects of individual past actions (CEQ, *Guidance on the Consideration of Past Actions in Cumulative Effects Analysis*, June 24, 2005). The past actions in the WEMO Planning area have contributed to the existing baseline, and are thus described in Chapter 3, Affected Environment. In some circumstances, past actions need to be described in detail when they bear some relation to the proposed action (H-1790-1, section 6.8.3.4). Where necessary, those actions are described throughout this section. For example, Table 4.14-2 includes past and present energy projects, i.e., existing projects and projects currently approved for construction.

4.14.2 Cumulative Scenario

Table 4.14-1 describes the geographic area of interest and impacts considered for each of the resource areas evaluated in Chapter 4 of this SEIS.

Renewable Energy and Other BLM-Approved Projects

Developers have proposed a large number of projects on BLM-administered, State, and private land in the WEMO Planning area, including renewable, residential, commercial, industrial, and other. Many of these projects are small or would be located in already developed areas so would have limited if any potential to combine with the WMRNP alternatives. Projects that would have the potential to combine with the WMRNP alternatives were included in the list. While this list includes many renewable projects, they are competing for utility Power Purchase Agreements,

which will allow utilities to meet State-required Renewable Portfolio Standards. Not all of the proposed projects will complete the environmental review process, and not all projects will be funded and constructed for one or more reasons, such as those listed below:

- Not all developers will develop the detailed information necessary to meet BLM, State, and Federal standards or have the time or funds to complete the plan of development or comply with the environmental review requirements.
- As part of approval by the appropriate Lead Agency under NEPA and/or CEQA (e.g., BLM, Energy Commission, or local jurisdiction or USFWS if ESA-listed species would be affected), applicants must comply with all existing laws, regulations, or the prescriptions required by the regulatory authorities incorporated into the Lead Agency's license, permit, ESA section 7 consultation, or ROW grant. The large size of these projects may result in permitting challenges related to endangered species, mitigation measures or requirements, and other issues.
- After project approval, construction financing must be obtained (if it has not been obtained earlier in the process). The availability of financing will be dependent on the status of competing projects, the laws and regulations related to renewable project investment, and the time required for obtaining permits for individual projects.
- The inability to secure or a delay in securing a Power Purchase Agreement may result in a delay in financing.

While a large number of projects may be planned, and so are considered to be possible for future development, not all of them are expected to actually be built due to construction funding constraints, schedule, and/or delays. Given the uncertain and challenging economic circumstances facing federal and state economies as well as private developers, it is not assured that future funding and other necessary support will be sufficiently available for all of the proposed projects to be realized within the anticipated schedules. However, based on the potential demand for new renewable sources previously described, the cumulative project scenario includes all projects identified as reasonably foreseeable as of the publication of the Supplemental DEIS. Table 4.14-2 identifies the existing and reasonably foreseeable future projects in the WEMO Planning area that could contribute to cumulative impacts of the same type as the WMRNP alternatives.

Table. 4.14-1. Cumulative Scenario

Resource or BLM Program	Cumulative Analysis Impact Area	Elements to Consider	Projects Potentially Contributing to Cumulative Impacts
Air Quality	GBVAB, MDAB, and SSAB	District-specific significance thresholds	All projects in Table 4.14-2
Climate Change	WEMO Planning area	Emissions of greenhouse gases	All projects in Table 4.14-2
Geology, Soil, and Water Resources	WEMO Planning area	Soil erosion, direct and indirect impacts to riparian areas	All projects in Table 4.14-2
Biological Resources	WEMO Planning area	Direct and indirect impacts to special-status species and habitat, sensitive communities and invasive plants	BLM Resource and ACEC Management Plans, other Federal (DoD and National Park Service) management plans, State and local management plans, and projects listed in Table 4.14-2
Socioeconomics	WEMO Planning area and 2-hour commute distance from the area	Effects on social character of communities; economic effects on users of routes.	All projects in Table 4.14-2
Recreation	WEMO Planning area lands available for recreation.	Motorized vehicle access, air quality, noise, visual resources	All projects in Table 4.14-2
Livestock Grazing	Grazing allotments within WEMO Planning area.	Cumulative loss of grazing opportunities and limitations on access to range improvements.	BLM Resource and ACEC Management Plans, and projects listed in Table 4.14-2 which are within or in close proximity to grazing allotments.
Energy Production, Utility Corridors, and Other Land Uses	WEMO Planning area	Access to BLM-authorized land uses, including energy production, designated utility corridors, mining, grazing, and communications sites.	BLM Resource and ACEC Management Plans, and projects listed in Table 4.14-2 which are within or in close proximity to other authorized land uses.
Cultural Resources	WEMO Planning area	Cultural resources, traditional use areas, and cultural landscapes	BLM Resource and ACEC Management Plans, other Federal (DoD and National Park Service) management plans, State and local management plans, and projects listed in Table 4.14-2

Table. 4.14-1. Cumulative Scenario

Resource or BLM Program	Cumulative Analysis Impact Area	Elements to Consider	Projects Potentially Contributing to Cumulative Impacts
Visual Resources	Viewshed of WEMO Planning area locations from which the Planning area can be seen	Additive or synergistic visual contrast	BLM Resource and ACEC Management Plans, other Federal (DoD and National Park Service) management plans, State and local management plans, and projects listed in Table 4.14-2
Special Designations	Within Special Designation areas (ACECs, Wilderness, lands inventoried for wilderness characteristics) inside the WEMO Planning area	Impacts to protected resources.	BLM Resource and ACEC Management Plans, and projects within the boundaries of Special Designation areas.
Noise	Within approximately 0.5 mile of motorized routes within the WEMO Planning Area	Combined noise levels at sensitive receptors and residences	Noise sources within 0.5 miles of motorized routes.

Table 4.14-2. Existing and Reasonably Foreseeable Projects

Project Name; Agency ID	Location	Ownership	Status	Acres	Project Description
Desert Renewable Energy Conservation Plan (DRECP); CEC, BLM, CDFW, and USFWS	California desert land in parts of Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego counties, and including all of WEMO	Multiple land owners, including federal, State, County, and private	Pending, Draft EIS released in September, 2014	9.1 million acres in WEMO.	BLM Land Use Plan Amendment, USFWS Habitat Conservation Plan, and CDFW Natural Communities Conservation Plan, which identifies renewable energy development areas to facilitate development in those areas, and conservation lands and parameters to offset development. May include development limits within and outside of DWMA, in addition to 1% disturbance caps already in place, as well as other development and resource-specific parameters.
Abengoa Mojave Solar (CACA 52096)	Harper Dry Lake, 25 miles northwest of Barstow	Abengoa Solar	Existing Project: Under construction; estimated complete in 2014.	1,765	A 250 MW solar thermal parabolic trough project using wet cooling (National Renewable Energy Laboratory, 2013; U.S. Department of Energy, 2013).
XpressWest High Speed Rail Project (CACA 48497 and NVN 82673)	Victorville to Las Vegas along I-15	DesertXpress Enterprises, LLC	Authorized Project: Authorized July 2011 (Federal Railroad Administration [FRA]) and October 2011 (BLM).	1,300-acre ROW	This project formerly was known as the "DesertXpress High Speed Passenger Rail Project." The FRA preferred alternative, Segment 3B (modified), would be constructed on the northwest side of I-15 in the Project Area, and a Maintenance of Way facility is located in the town of Baker. (FRA, 2011a, 2011b; BLM, 2011). For additional information about the project and its environmental effects, see the Record of Decision and Final EIS, each of which is available on the BLM's website: http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/Barstow/pubs.Par.2523.File.dat/DXE%20ROD%20FINAL%20updated%2010-28-11.pdf

Table 4.14-2. Existing and Reasonably Foreseeable Projects

Project Name; Agency ID	Location	Ownership	Status	Acres	Project Description
Calnev Pipeline Expansion Project (CACA 49138/CAD 080000.26)	Colton to Las Vegas along I-15	Calnev Pipe Line, LLC	Pending Project: Draft EIS/EIR published March 2012	Portion of the 1,820.4 acres within the WEMO Planning Area	A 233-mile, 16-inch-diameter refined petroleum products pipeline on the northwest side of I-15 in the Project area, including a new pumping station near the town of Baker. (BLM and San Bernardino County, 2012a)
Communications sites	Within WEMO Planning area	Various communications companies	Existing/Proposed projects	Not Known	There are several existing and proposed communications sites in the Project area consisting of towers with communications equipment.
Mining Claims	Within WEMO Planning area	Various mining claimants	Claims Filed: none have submitted plans of operation	Not Known	Location dates vary from September of 2012 to May 2012.
Johnson Valley Military Expansion (CACA 50194)	South of I-40	United States Department of the Navy	Final EIS published June 2012	98,000	Approved Expansion of Twentynine Palms Marine Corps Air Ground Combat and Airspace Establishment under P.L.

BLM Resource and ACEC Management Plans

CDCA Plan and WEMO Plan

The CDCA Plan of 1980 addressed public-land resources and resource uses within 12 million acres of public land in southern California. The CDCA Plan has been amended several times since 1980. In 2006, the BLM approved a comprehensive amendment covering the WEMO area of the CDCA. The West Mojave Plan Amendment (WEMO Plan) was evaluated in a Final EIS that was approved by BLM in a Record of Decision (ROD) in 2006. The WEMO Plan approved in 2006 is a federal land use plan amendment that presents (1) a comprehensive strategy to conserve and protect the desert tortoise, the Mohave ground squirrel (MGS) and over 100 other sensitive plants and animals and the natural communities of which they are a part. The 2006 WEMO Plan also adopted an off-highway vehicle (OHV) travel management network and general strategy in support of this biological objective. The WEMO Plan was developed as a collaborative effort involving federal, state, and local agencies and non-governmental stakeholders, collectively designated as the "West Mojave Supergroup".

Desert Renewable Energy Conservation Plan (DRECP)

The WEMO Planning area is included within the geographic scope of another ongoing BLM planning effort known as the Desert Renewable Energy Conservation Plan (DRECP) for current and future renewable energy facilities. The DRECP addresses the suitability of lands within the CDCA for renewable energy development and resource protection and, as a result, may ultimately affect travel management issues such as access needs and opportunities. The WMRNP SEIS incorporates affected environment data from DRECP as appropriate, and considers the effects of the actions taken under DRECP on travel management in the Planning Area, to the extent they are reasonably foreseeable, given the parallel timing of the DRECP Plan. The draft DRECP Plan was released in September 2014; however, it is likely that the ROD for the DRECP will be released after the ROD for the WMRNP, given the broader scope of the DRECP.

Northern and Eastern Mojave (NEMO) CDCA Plan Amendment

The NEMO planning area comprises the northern and eastern portion of the CDCA, to the north and east of WEMO. The NEMO planning area lies to the northeast of the western Mojave Desert, in the area that generally lies between Death Valley National Park and the Mojave National Preserve. The NEMO Plan amendment to the CDCA Plan were implemented in a ROD was signed in December 2002. With respect to travel management, the NEMO ROD designated all routes within the NEMO area as "open", "limited", or "closed". The NEMO Plan also eliminated the portion of the Barstow to Las Vegas Race Course within the NEMO planning area.

Northern and Eastern Colorado (NECO) CDCA Plan Amendment

The NECO planning area comprises the southern portion of the CDCA, to the south of WEMO. The NECO Plan amendment, like the NEMO Plan amendment, was signed by BLM in December 2002. With respect to travel management, the NECO ROD designated all routes within the NECO area as "open", "limited", or "closed". It also designated open and closed wash zones for vehicular travel. The NECO Plan also did not eliminate the portion of the

Johnson Valley-Parker route within the NECO area because it lay entirely outside of DWMAs and had no other particular species sensitivity issues.

ACEC Management Plans

Thirty-one Areas of Critical Environmental Concern (ACECs) wholly or partially within the WEMO Planning area were established by the BLM through the CDCA Plan and amendments prior to 2005. Of these, the Darwin Falls ACEC was later incorporated into Death Valley National Park. The 2006 WEMO Plan made numerous changes to the system of land designations for protection of resources in the WEMO Planning area. Many of these overlapped with each other. The 2006 WEMO Plan established four Desert Wildlife Management Areas (DWMAs), totaling 1,523,936 acres for the protection of the desert tortoise, and four conservation areas totaling 1,726,712 acres for protection of other species. In addition, the WEMO Plan made modifications to MUC classifications, boundaries, and management objectives to the existing ACECs, and acted as an amended management plan for 25 of these ACECs to incorporate provisions to conserve protected species. Finally, the WEMO Plan established 10 new ACECs within the planning area. The ACECs and DWMAs are discussed in Section 3.11.

Other Agency-Approved Projects and Management Plans

The WEMO Planning area is bordered on all sides by other jurisdictions. These include federal land managed by the BLM, USDA Forest Service, National Park Service, Department of Defense (DoD); state lands managed by the CDFW (formerly California Department of Fish and Game, or CDFG), State Lands Commission, and California Department of Water Resources; City lands where BLM manages small isolated parcels, and private lands and roads subject to state, County, or municipal jurisdiction. Travel management in these adjacent areas is managed through various management plans, general plans, and regulations, a follows:

- Adjacent BLM land is subject to the CDCA Plan or other applicable Land Use or Travel Management Plans;
- Adjacent National Forest Land is subject to applicable Forest, Land, and/or Travel Management Plans;
- Adjacent DoD land is subject to Installation Management Plans and, for the land area to be included within the expansion area for Twentynine Palms Marine Air Ground Combat Center, by the travel-related decisions in the February, 2013 Record of Decision;
- Adjacent State-, County- or City-owned land is subject to agency or jurisdiction-specific regulations and requirements for travel on those lands; and
- Adjacent routes on private land that are designated as part of a County or city network are subject to the applicable General Plan for that County of city;

Cumulative impact issues to be considered with respect to these adjacent route networks include maintaining continuity of access across jurisdictional boundaries; maintaining access (where appropriate) to private lands, approved facilities, and recreational opportunities located outside of the WEMO Planning area; and managing unauthorized use, including trespass onto adjacent jurisdictions.

National Forest Plans

The National Forests which border the WEMO Planning area include the San Bernardino National Forest, Angeles National Forest, Inyo National Forest, and Sequoia National Forest. Both the San Bernardino National Forest Management Plan and Angeles National Forest Land Management Plan RODs were signed in April, 2006. These plans included a variety of program strategies, some of which focused on travel management. National forest lands generally provide specific designated access routes to and through each forest onto adjacent public and private lands, consistent with forest land designations and overall recreation management goals.

The San Bernardino National Forest (SBNF) identified lands along the boundary of the two agencies as a major focal point for travel management, and BLM is working with the local SBNF office to identify appropriate public access strategies and achieve shared goals along shared boundaries and watersheds. The Inyo National Forest Land and Resource Management Plan was signed in 1988, and is currently being revised. The 1988 plan provided definition of management requirements for OHV use in certain areas of the Forest. The Inyo National Forest also prepared a Travel Management Plan in August 2009 which made changes to routes included within the National Forest Transportation System (NFTS).

The Sequoia National Forest Land and Resource Management Plan was signed in 1988, and is also currently being revised. The Forest released a Final EIS for their Motorized Travel Management Plan in 2009.

National Park/Preserve Plans

The National Parks and National Preserves which border the WEMO Planning area include Sequoia, Joshua Tree, and Death Valley National Parks and the Mojave National Preserve. The Sequoia National Park General Management Plan was finalized on September 14, 2007. The Death Valley National Park General Management Plan and Mojave National Preserve General Management Plan were both authorized in April, 2002. The Joshua Tree General Management Plan is currently being developed. These federal lands generally provide specific designated access routes to and through the Park onto adjacent public and private lands, consistent with Park goals.

Department of Defense Plans

The DoD installations that border the WEMO Planning area include Fort Irwin, Twentynine Palms Marine Air Ground Combat Center, Edwards Air Force Base, and Naval Air Weapons Station China Lake. Each of these installations operates under an Installation Management Plan which address motorized vehicle access and management. BLM coordinates closely with the installations to ensure maintenance of access, as well as to address use of BLM routes for unauthorized access to the installations. The February, 2013 Expansion Plan for Twentynine Palms includes continuing to allow limited motorized vehicle access, as it currently occurs on land managed by BLM for a portion of the expansion area.

The 29 Palms expansion is significant both for recreation and the desert tortoise. The loss of acreage for OHV use is anticipated to result in the displacement of recreation to other areas. It also directly impacts more than one hundred thousand acres of desert tortoise habitat and an unknown number of desert tortoises, which will need to be translocated or otherwise managed in a training area.

Inyo County

In 2011, the Inyo Planning Commission approved two conditional use permits, two tentative parcel maps, an amendment to the General Plan, two zone reclassifications, two variances, and two reclamation plans. The Renewable Energy General Plan Amendment (REGPA) approved an update to the General Plan to address renewable solar and wind energy development in Inyo County. The Sierra Club and Center for Biological Diversity sued the County claiming that an EIR would be required for the amendment. Due to budget constraints and the low threshold in CEQA for the requirement of an EIR, Inyo County rescinded the Renewable Energy General Plan Amendment in 2011. In June 2014, the County published a Draft General Plan Amendment to address solar energy development. This decision establishes Solar Energy Development Areas (SEDAs) throughout the County, and applies megawatt and acreage caps within these areas.

The County is also participating in the Owens Lakebed Master Plan that will provide a framework for future Lakebed development

According to the California Department of Finance, Inyo County's population is projected to grow from 18,528 in 2010 to 22,009 in 2040 (DOF 2013). As noted in the Inyo County Housing Element (Inyo County Planning Department 2009), the majority of this growth is expected to occur in the unincorporated areas of the County. The County seeks to concentrate this new growth within and contiguous to existing communities such as Bishop, Big Pine, Independence, and Lone Pine (Inyo County Planning Department 2013a). Inyo County hopes to acquire several sites currently owned by Los Angeles Department of Water and Power to facilitate the development of affordable housing (Inyo County Planning Department 2009, 2013b). The largest employers in the County are within the service sector, retail trade, and public administration (Inyo County Planning Department 2009). The County expects growth in tourism-related employment and wants to market Inyo County as a tourist destination (Inyo County Planning Department 2013c). Additional areas of growth and economic development are projected to occur in agriculture, renewable energy projects, and natural resources extraction (Inyo County Planning Department 2013d).

In addition to the large renewable energy facilities proposed in Inyo County, the Fort Independence Indian Community of Paiute Indians proposes to develop a combination Class II and Class III Gaming Complex and associated full service hotel structure within the western portion of the 360-acre Fort Independence Indian reservation along U.S. Highway 395. The complex would also include a conference center, multipurpose event center, and related facilities (Inyo County Planning Department 2014c).

Kern County

The Kern County General Plan has goals that include residential goals such as promoting higher-density residential development and promoting mixed-densities within developments. The county's commercial and industrial goals include ensuring adequate and geographically balanced supply of land for a range of commercial and industrial uses and pursuing a strong economy through logical placement and distribution of commercial and industrial development.

Kern County's population is projected to grow from 841,146 in 2010 to over 1.6 million in 2040 (California DOF 2013), with the majority of growth projected in the Greater Bakersfield area (Center for Rural Entrepreneurship 2011). The Tehachapi Mountain Communities have a

projected growth of 50-60% by 2040, while western Kern may see modest growth of 5-10% (Center for Rural Entrepreneurship 2011). From 2011 to 2040, increases are projected for most employment sectors, with a doubling of professional services and health and education employment. Construction employment, however, is projected to decrease from current levels (California DOT 2011).

Los Angeles

Los Angeles County is in the process of updating the Antelope Valley Area Plan. The goals identified in the Land Use Element of this plan include a land use pattern that maintains and enhances the rural character of the unincorporated Antelope Valley and directs the majority of future growth to the cities of Lancaster and Palmdale. It also has a goal to follow a land use pattern that protects environmental resources and promotes efficient use of existing infrastructure. Development planned in the Antelope Valley Area includes the High Desert Corridor, a limited-access highway linking Interstate 5, State Route 14, and Interstate 15 through Los Angeles and San Bernardino Counties; utility-scale renewable energy production; and the Palmdale Regional Airport.

According to the California Department of Finance, Los Angeles County's population is projected to grow from 9,824,906 in 2010 to 11,243,022 in 2040 (DOF 2013). As noted in the Los Angeles County General Plan, the largest growth sectors countywide in terms of jobs are professional, scientific and technical services, health services, and retail trade. Specific industries that have the most potential to contribute to the economy include: entertainment, fashion, aerospace and analytical instruments, trade, education and knowledge creation, publishing and printing, metal manufacturing, biomedical, and tourism (Los Angeles County 2013a). The General Plan outlines several "Opportunity Areas" which are organized into the following types: transit centers, neighborhood centers, corridors, industrial flex districts, and rural town centers. In addition, Los Angeles County has created several "planning areas" which divides the unincorporated areas of Los Angeles County into eleven sections based on geographical location, and similarities in land use and economy.

San Bernardino County

The County of San Bernardino General Plan divides the County into three planning regions, based on geographic location — Valley, Mountains, and Desert — and outlines policies drafted specifically for each of these regions (CSBLUSD 2007a).

Much of the WEMO Planning area overlaps the Desert planning region of San Bernardino County. The development goals for the San Bernardino Desert Region are to maintain land use patterns that enhance rural environment and preserve the quality of life of the residents. The San Bernardino 2012 General Plan Annual Report notes that recent housing development has been concentrated in the high desert region including Barstow and Victorville but the county expects upcoming housing projects to be concentrated in the inland valley region.

According to the California Department of Finance, San Bernardino County's population is projected to grow from 2,038,523 in 2010 to 2,988,648 in 2040 (DOF 2013). As stated in the County of San Bernardino General Plan, most of this growth is expected to occur in the western portion of the County. The majority of economic development in San Bernardino County is expected to occur in construction and maintenance occupations, as there is a lot of building activity taking place. Several renewable energy projects have been proposed for San Bernardino

County. As of December 26, 2013, there were seven projects under review, ten that had been approved but not yet constructed, and six that had been constructed (CSBLUSD 2013).

In terms of land use, Resource Conservation comprises the majority (55.98%) of designated land uses in the County while Residential Land Use comprises the second largest land use designation (37.92%) (CSBLUSD 2007a: 11-26).

4.14.3 Cumulative Impact Analysis

A cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of which agency (federal or non-federal) or person undertakes such other actions (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." (40 CFR 1508.7). The Council on Environmental Quality (CEQ) recommends that agencies "look for present effects of past actions that are, in the judgment of the agency, relevant and useful because they have a significant cause-and-effect relationship with the direct and indirect effects of the proposal for agency action and its alternatives" (36 CFR 220.4(f)).

The 2006 WEMO EIS presented a cumulative impact analysis of the WEMO Plan's proposed actions and alternatives, including the addition of new conservation areas and the evaluated route network, in combination with the past, present, and reasonably foreseeable projects within the WEMO Planning area. The current cumulative analysis for this SEIS tiers from that presented in the WEMO Plan, with the following modifications:

- The list of past, present, and reasonably foreseeable projects has been updated to the current date;
- The affected resource information against which the direct, indirect, and cumulative impacts are evaluated has been updated based on the requirements of the Court's Summary Judgment and Remedy Order, and to include updated resource information; and
- The alternatives being evaluated include variations of the TTM goals and objectives and the route networks, as discussed throughout Chapter 2 of this SEIS.
- The WEMO Plan's growth inducing impacts are no longer anticipated, because they were predicated on other jurisdictions adopting the Habitat Conservation Plan (HCP) measures proposed in the plan. Although growth inducing impacts are the result of other factors, they are still anticipated in the high desert.

Air Quality

Local air districts have State air quality jurisdiction over all public lands, including transportation routes and grazing allotments located in the WEMO planning area, and have been delegated authority to implement the Clean Air Act from the EPA. These include the Mojave Desert Air Quality Management District (MDAQMD) in San Bernardino County, Antelope Valley Air Quality Management District (AVAQMD) in Los Angeles County, Eastern Kern Air Pollution Control District (EKAPCD) in Kern County, and Great Basin Unified Air Pollution Control District (GBUAPCD) in Inyo County.

The discussion of existing air quality in Section 3.2.4 summarizes the attainment status and air emission sources which affect the WEMO planning area. This includes sources within the planning area, as well as sources outside of the planning area which can contribute to air quality conditions within the planning area. That discussion constitutes an analysis of cumulative impacts from current projects, as it is based on ongoing monitoring programs in locations which can be affected by these sources. All local air districts have analyzed impacts from existing sources for PM_{10}, and prepared a State Implementation Plans (SIP) for the their respective jurisdictional areas which both identify existing sources of emissions and also control measures to manage existing emissions and reduce new emissions (MDAQMD, 1995).

BLM asked the MDAQMD to work with the other air districts and compile the results from the 46 ambient air monitoring stations. The results of this study were reported to BLM in the West Mojave Plan Air Quality Evaluation Report dated April, 2103 (MDAQMD 2013). The Air Quality Evaluation Report provided detailed information on the locations and operations of the 46 monitoring stations throughout the planning area. Monitoring data included VOCs, oxides of nitrogen (NOx), carbon monoxide (CO), respirable particulate matter (PM10), fine respirable particulate matter (PM2.5), oxides of sulfur (SOx), and hazardous and toxic compounds (HAPs and TACs). The emissions monitored at the stations include emissions from three categories of sources: stationary sources (such as industrial activity, power generation, and military bases), mobile sources (including on-road vehicles, off-road vehicles, airplanes, and trains), and area sources (small widespread sources such as solvents, fires, and consumer products).

Emissions from OHVs were separately inventoried as a subcategory of the mobile sources. Emissions from OHV Open Areas were indirectly inventoried as area sources, as an element within the subcategories of unpaved road dust and fugitive windblown dust. The monitoring locations include a mix of sites near population centers (neighborhood scale monitors) and in rural areas (regional scale monitors). The neighborhood scale monitors are intended to characterize conditions that may affect nearby populations and for tracking the progress towards attainment of the ambient air pollutant standards. The regional scale monitors evaluate emissions within broad geographic regions and track background levels of ambient air pollutants. The monitoring network meets all federal, state, and local air monitoring requirements, including monitoring impacts to ambient air quality resulting from OHVs and OHV Open Areas.

The total emissions inventory in the planning area, combined using data from each of the five air quality districts, was presented in Table 3.2-3. Figure 3.2-4 presented the relative contributions of the various sources to the emissions inventory. Figure 3.2-4 showed that mobile sources (including OHVs) are the largest source of ozone precursor (VOC and NOx) emissions, but are a minor component of SOx, PM10, and PM2.5 emissions. VOC emissions from OHVs are high relative to other sources because their engines do not have catalytic controls, and therefore release unburned fuel in their exhaust. As such, OHV emissions are a significant contributor to VOC emissions, which are a precursor to a regional pollutant (ozone). The report concluded that OHV Open Areas are not a significant contributor to either total unpaved road dust or fugitive windblown dust subcategories, and are thus not a significant contributor to regional PM10 emissions. This is because the disturbed area in the OHV Open Areas is small relative to the total mileage of maintained and unmaintained unpaved roads and tracks, as well as tens of millions of acres of land disturbed for other uses, much of which is from outside of the planning area.

Over the last 50 years, urbanization and development have resulted in significant increases in air emissions in Southern California, and eventually the designation of regional air basins as being in non-attainment of CAA standards for criteria pollutants, including particulates. In the last ten years, the air emissions in the region are slowly improving, and many of the programs and projects analyzed in the cumulative scenario are anticipated to contribute to long-term improvement of air quality in Southern California air basins. Implementation of WEMO and other Plan Species Conservation Measures, including habitat disturbance caps, area withdrawals, and habitat rehabilitation programs, are anticipated to reduce emissions of particulate matter from public lands that result from wind erosion of unvegetated surface disturbance areas. Reductions from these plan strategies would primarily occur on BLM lands away from population centers. On the other hand, long term projected population growth in and around current core population centers such as the Antelope Valley, the Victor Valley area and Barstow, including the projects listed in Table 14.4-2, will result in cumulative increase in air emissions. Air emissions from wind-blown dust is a major problem in the West Mojave desert from sources outside the air basin. While these emissions are exacerbated by local conditions, they are the result of activities upwind in central and southern California.

Agricultural activity within the air basin is a small contributor to PM_{10}, within the miscellaneous category of SIP emissions, and livestock grazing operations are a small portion of the agricultural activity contributions. No measures were identified in the SIP specific to existing livestock grazing activities, and renewals of leases were exempted from conformity determinations consistent with the SIP, due to their nominal (less than 15 tons/year) contributions to air quality in the Mojave Desert planning area (BLM, 1997). These results are consistent will all other air district SIPs in the WEMO Planning Area. Under cumulative effects there would not be an increase in grazing activities over those historic levels, and regional exceedances of PM_{10} standards have decreased approximately 10% (EPA, 2003) due to voluntary and SIP measures to decrease emissions from substantial sources. Therefore, there would be no substantial affect to air quality under cumulative analysis.

Direct emissions from motorized vehicles are a substantial contributing factor to particulates emissions. The majority of these emissions are the result of use of Interstate Highways and other major federal, State, and County roads through the region, and urban use in the Victor Valley area. Emissions from motor vehicle use on public lands are a relatively small portion of the direct impacts from motor vehicles. Erosion is the primary source of PM_{10} emissions off of public lands. The total mileage of motorized routes and the amount of adjacent disturbed areas available for stopping and parking is not expected to affect the total mileage traveled by OHVs, and overall level of erosion from the use of the network.

Overall, the relative contribution of the travel management strategies proposed under each of the alternatives to air emissions would not substantially vary in the reasonably foreseeable future. Under all alternatives rehabilitation is proposed to continue to be pursued as a key implementation strategy. Travelled network miles would be unchanged; the net change in air emission impacts attributed to route closures and route use would be minimal. Considered together with other programs and projects and with the strategies to enhance habitat in the WEMO Plan, the cumulative effects of the alternative plan amendment decisions, network frameworks, route designations, and other implementation strategies are anticipated to be corresponding declines in overall PM_{10} concentrations in a number of areas.

Global Climate Change

The alternatives being evaluated as part of the WMRNP would not result in any increase or decrease in the total amount of direct motorized GHG emissions in the planning area. The proposed CDCA plan amendment decisions associated with the alternatives would not lead to a change in the motorized vehicle use or miles traveled in the planning area, and would therefore not result in any increase or decrease in direct or indirect GHG emissions from motorized vehicles. Therefore, the alternatives evaluated as part of the WMRNP would not contribute to an incremental change in cumulative global climate change impacts. The amount of methane produced by all livestock authorized by BLM per annum would be nominal, and would not equate to the methane production from a small dairy operation that occurs in a single day. Considered together with other programs and projects, including renewable energy projects in the region, and with the strategies to enhance habitat in the WEMO Plan, the cumulative effects to global climate change are nominal.

Geology and Soils

In Limited Access Areas within the WEMO Planning Area, motorized vehicle use of unpaved routes are a substantial contributing factor to overall planning area soil compaction, mechanical displacement, or removal of vegetation or crusts that stabilize surficial soils and result in decreased water infiltration rates and soil moisture content, increased potential for wind and water erosion, dust deposition downwind of routes, and change soil chemistry. Motorized vehicle use of unpaved routes can also increase potential exposure Valley Fever (*Coccidioidomycosis*), a disease caused by the inhalation of the fungal spores which inhabit soils in the southwestern United States, as a result of inhalation of dusts generated by the passing of motorized vehicles or through exposure to materials mobilized through wind erosion.

Long-term repeated use motorized routes, trails, hill-climbs and livestock watering and holding facilities results in some areas that are often intensely compacted. The amount of compaction depends on vehicle characteristics, amount of activity, soil type, and soil moisture content. Motorized vehicle activity on wet soils tends to result in greater compaction than on dry soils. Some cohesion-less sands, such as sand dunes, are very resistant to compaction whether wet or dry.

Overall travelled network miles are not anticipated to change under the various alternatives. However, any substantial change in the intensity of motorized vehicle use on routes or from other activities has the potential to have direct effects on soil resources, as well as resulting in indirect effects on air quality, water quality, stormwater flow, vegetation, and human health. Increased motorized vehicle use in places that have previously been subjected to light, intermittent motorized vehicle use, could result in either compaction or de-compaction, depending on the characteristics of the soil, the slope, the type of motorized vehicle, and the manner in which the vehicle is used.

Continued motorized vehicle and livestock use in already compacted areas may not lead to substantial additional compaction, but it would ensure that natural recovery does not begin to occur. Continued moderate to heavy motorized vehicle use on loose soils would lead to ongoing mechanical displacement and loss of soil through erosion, which are direct, adverse impacts to soil resources. Indirect impacts on air quality, water quality, stormwater flow, vegetation, and human health would be adverse, and would continue until the affected soils were allowed to

recover. Reductions in motorized vehicle, livestock, or other intensive use in areas currently experiencing intense use would lead, over time, to restoration of original soil conditions, which would be a beneficial effect.

Grazing animals can apply compressional and shear forces to the soil. The crust response to these disturbances is highly variable. Moisture and burial are two important factors relating to the degree of impact. With coarse textured sandy soils, moist crusts are better able to withstand disturbances than dry soils (Belnap 2003 and BLM 2001). Many of the biological crust species are not mobile and cannot survive burial. However, as Belnap (2002 and 2005 and BLM 2001) noted, the hot desert crusts are simple crusts that are highly mobile and quick to recover from disturbance. The large, filamentous cyanobacteria can move 5mm per day if it is wet (Belnap 2003 and BLM 2001). Although rain and moist soils occur at the start of the grazing season, grazing in the later part of the spring can reduce the cover of biological crusts because the soils are dry. These simple crusts would likely recover within days once the rain returns because the crusts are simple to nonexistent, site recovery, outside of congregation areas should be such that the impact would not be substantial (BLM -TR 1730-2 2001).

Closure of routes to motorized vehicles, particularly routes experiencing moderate to intensive use, and elimination of grazing allotments with intensively used areas, would allow soils to gradually recover, and therefore have a beneficial impact on soil resources. Rehabilitation of other intensively disturbed areas, such as historic mining sites, can also allow soil recovery. Active restoration, including de-compaction by raking or other mechanical means, can speed this process.

Authorization of new land-uses, particularly for large facilities, new access routes, and development of additional livestock watering and holding facilities or other intensive use sites, contribute to cumulative impacts from soils--compaction, mechanical displacement, removal of vegetation or crusts that stabilize surficial soils and resulting decreased water infiltration rates and soil moisture content, increased potential for wind and water erosion, dust deposition downwind of routes, and changes to soil chemistry. Large facility authorizations include measures to mediate potential impacts from wind and water erosion, and off-site dust deposition. Upon termination, other soil impacts are addressed through specific site rehabilitation strategies.

Overall, soil standards are being met on public land in the Limited Access Areas where routes are being designated based on the Rangeland Health (43 CFR 4180) assessments that have been conducted throughout the planning area. While these assessments are limited to grazing allotments, they cover a wide diversity of the geologic substrates, soils, and plant communities in the planning area. These assessments demonstrate that soil impacts are linked to the intensity of disturbance as well as underlying geology, soil types, and local conditions. Intensely disturbed areas within Limited Access Areas, such as the areas at or associated with livestock watering facilities or holding corrals and communication sites (very small), OHV Open lakebeds (moderately sized), and construction sites on public lands (small to very large), contribute to localized adverse impacts. Given the relative lack of disturbances in areas closed to motorized access, soil standards are being met on these public lands, and localized adverse impacts are small. Open OHV areas, particularly those that are not underlain by coarse, sandy soils, contribute substantially to the overall adverse soil impacts in the planning area due to the intense level of motorized use over relatively small areas. In addition, support areas such as staging areas, pit areas, viewing areas, and parking for event participants and viewers are compacted.

The significance of the impacts on soil resources differs depending on whether impacts occur in close proximity to sensitive resources, location relative to sensitive populations, and the intensity of use. Compaction and erosion that adversely affects vegetation would be more or less significant depending on the presence or absence of sensitive plant species, unusual plant assemblages, or riparian areas. Increased introduction of sediment due to water erosion would be more or less significant depending on the proximity to surface water bodies or aquatic resources. Increases in PM_{10} emissions due to wind erosion can have regional effects, and would not be limited to the local area. Potential human exposure to Valley Fever as a result of mechanical displacement of infected soils could be increased if people gathered in close proximity to routes, such as during organized OHV events in OHV Open Areas.

The designation of specific routes as part of the transportation network under the WMRNP alternatives would affect the overall mileage of routes on which motorized vehicle use is allowed, as well as identifying specific locations for motorized vehicle use and routes closed and designated as transportation linear disturbances. These designations also result in different intensities of use on the alternative network, based on the overall motorized use being constant between alternatives.

Of the four alternatives evaluated in this SEIS, Alternative 3 would result in the largest route network and therefore would contribute to adverse cumulative impacts to geology, soils, and water over a greater previously disturbed area by maintaining more open motorized routes, including routes within close proximity to riparian areas and in areas prone to soil erosion. Some routes in the network would experience more intensive use while others would experience less intensive use. Minimization and mitigation measures would reduce, but not eliminate, impacts from routes in proximity to riparian areas and from stopping, parking and camping adjacent to routes. Overall, the intensity of use on the network routes under Alternative 3 would be substantially reduced due to the overall mileage available. Alternative 2, by closing the largest mileage of routes and applying the most restrictive minimization and mitigation measures, would result in a decrease in the areas disturbed and therefore soil impacts, including to routes within close proximity to riparian areas and in areas prone to soil erosion. In areas where motorized routes exist, the contribution of Alternative 2 to cumulative geology, soils, and water impacts would still be adverse. Intensity of use on the remaining Alternative 2 network is anticipated to increase, particular adjacent to communities and on the routes to OHV areas and other accessible popular areas and locations.

Under all alternatives, livestock grazing on West Mojave allotments would continue to have a localized, negative affect on soils associated with congregation areas such as watering sites, and corrals through soil compaction caused by the concentration of livestock in a localized area. Soil compaction results in accelerated erosion by allowing for rapid run-off of water because of the lack of infiltration, and impedes seed germination. These types of impacts do not occur or occur to a much lesser degree over the vast majority of soils on these allotments. These allotments would continue to achieve the soils standard concerning infiltration and permeability rates that are appropriate to soil type, climate and landform.

Any change in the total amount of motorized vehicle use, development of additional livestock watering and holding facilities, elimination of allotments, or other major surface disturbances and rehabilitation projects as a result of other Plans or proposals has the potential to have direct effects on soil resources, as well as resulting in indirect effects on air quality, water quality, stormwater flow, vegetation, and human health.

Under all alternatives travelled network miles from motor vehicles is anticipated to continue at the same levels, regardless of the network adopted. Due to a larger network, more areas prone to high erosion would be available for public use under Alternative 3; due to the higher intensity of use, more wind erosion and associated soil impacts may be anticipated from Alternative 2, particularly close to communities and popular OHV areas. Overall, the relative contribution of the travel management strategies proposed under Alternative 3 are anticipated to be somewhat higher than for the other alternatives. Rehabilitation is proposed to continue to be pursued as a key implementation strategy under all alternatives. Considered together with other programs and projects and with the strategies to restore disturbed areas in the WEMO Plan, the cumulative effects on soils of the alternative plan amendment decisions, network frameworks, route designations, and other implementation strategies are anticipated to be nominal.

Water and Water Quality

Urbanization and development in the high desert have resulted in depletion of surface and groundwater in the high desert over the last century. Recently, depletion of some of the aquifers in the high desert appears to be accelerating, while other aquifers, away from developed areas appear to be stabilizing. Agricultural land uses have been declining in part in response to drought and water supply issues, but urban development continues to occur, including adjacent to waters. There is also some level of "de-watering" associated with providing drinking water to livestock along with the wildlife usage from springs with finite sources. Spring waters may be affected by various anthropogenic sources and natural events, such as minor earthquakes.

Water quality impacts associated with urban development and agricultural, including livestock, use are primarily associated with increases in sediment released to surface water bodies by stormwater erosion. There also occurs a substantial amount of naturally occurring sediment in desert ephemeral waters as a result of ongoing geologic processes. In general, increased stormwater erosion is an indirect effect of soil resource impacts discussed in Section 4.3.1.

The compaction of soils associated with development and agricultural use can lead to increased stormwater runoff rates which, in turn, can increase erosion potential. In addition, development and livestock use can de-compact soils or otherwise remove vegetation, crusts, or other stabilizing features that protect soil from erosion or mediate erosional effects. These effects are exacerbated when the disturbance occurs directly in, or adjacent to, flowing streams or ephemeral desert washes.

Native wildlife and livestock use at undeveloped springs and creeks can also result in the release of fecal coliform into natural water sources. Most developed water sources have been fenced and the water piped to a trough to protect the sources from livestock impacts to soils, vegetation and limit the release of fecal coliform. However, the sampling of chemical constituents is typically not occurring during the PFC process, so the direct impacts from livestock grazing is not known. Unidentified levels of fecal coliform contamination is probable, both from wildlife and from livestock. Most of the developed spring sources are protected from substantial levels of contamination from livestock by fencing or natural/man-made features where water is then piped to a trough. Overall, impacts to water quality from livestock grazing at protected spring sources is considered nominal because spring sources are protected from direct access by livestock.

Pipelines crossing through the desert carrying significant amounts of oil and gas to and from Southern California and points north and east. Loss of minor amounts of fuel during testing and

replacement activities, and more significant amounts during pipeline breakages, can have adverse impacts on waters in the region. Significant pipeline breakages can occur, particularly in association with development activities and earthquakes. More nominal leakage occurs in conjunction with erosion of pipeline integrity. Sophisticated testing techniques now limit the extent of leakage from normal wear and tear.

Motorized vehicle use results in similar increases in sediment load resulting from compaction and erosion, which again, are exacerbated when the disturbance occurs directly in, or adjacent to, streams and ephemeral washes, as well as when the use occurs in areas that already are experiencing naturally or anthropogenic increased erosion potential.

Motorized vehicle use on the transportation network also requires the use of petroleum fuels which, if released, can impact surface water or groundwater quality. Motorized vehicles generally carry very limited volumes of these fuels, so the threat to water quality is minor. Fueling is generally done at commercial service stations, which have precautions in place to avoid fuel releases. In some cases, such as organized events, fueling of OHVs can be done from small containers or tanks carried by trucks. In these cases, the types of precautions available at commercial fueling stations would not be in place, but siting away from waters and areas with high erosion potential mediates potential impacts, and the volume of fuel handled is still expected to be limited.

Due to a larger network, more routes prone to high erosion and sedimentation would be available for public use under Alternative 3; due to the higher intensity of use close to communities and popular OHV areas, more routes prone to high erosion and sedimentation will be available for public use under Alternative 2. In general, wash routes. Overall, the relative impacts of the travel management strategies proposed under Alternative 3 are anticipated to be somewhat higher than for the other alternatives based on the number of routes in the vicinity of riparian areas. Protection and rehabilitation strategies are proposed as a key implementation strategy under all alternatives, with emphasis on sensitive areas, including areas potentially affected by sensitive water resources.

Implementation of strategies, including the WEMO Plan Conservation Measures and ACEC measures, on the other hand, may mediate erosion potential in sensitive areas with high slopes and adjacent to streams and ephemeral washes, both as a result of closure and rehabilitation activities, as well as specified riparian and spring enhancement projects. Other major projects may create the potential for sedimentation from stormwater runoff. DRECP, in directing development projects to some areas and away from others, is anticipated to exacerbate increased erosional potential in areas already experiencing development pressures. Associated stormwater plans associated with such development projects are approved by the regional water quality control board under authority of the Clean Water Act, and mediate and localize such effects.

Basic water quality monitoring is being conducted as part of the BLM's Proper Functioning condition (PFC) assessments process (TR 1736-16) at spring sources located on West Mojave allotments to monitor water quality and function. Through the PFC assessments process, natural water sources available to livestock have been evaluated for all threats to water quality and riparian values, including anthropogenic and natural threats,. The appropriate management action(s) would be implemented based on the source(s) of the threat and other specifics of the situation; these management actions may include, but are not limited to, fencing, placement of additional troughs, limitations on the use of the access route, and re-design of the facility.

A program-wide water quality monitoring strategy is also under development for West Mojave allotments. Best Management Practices (BMP) for water quality is being developed for public lands in California, including the California Desert District (CDD) and would be adopted upon approval. Regional Rangeland Health Standards, which include a standard for water quality, have not yet been approved by the Secretary of Interior for the CDD which include the allotments being analyzed in this document.

The BLM is currently consulting with the Lahontan Regional Water Quality Board to develop a Management Agency Agreement (MAA) for non-point sources on public lands to address water quality issues. Upon agreement by both agencies, relevant portions of the Management Agency Agreement would be incorporated into activities directed by the BLM, including the grazing leases, to address any remaining water quality issues or conflicts.

Considered together with other programs and projects and with the strategies to restore disturbed areas in the WEMO Plan, the cumulative effects on waters of the alternative plan amendment decisions, network frameworks, route designations, minimization strategies, and other implementation strategies are anticipated to be nominal. Significant dewatering of the aquifers and regional water quality impacts on a cumulative level are similar under all alternatives.

General Cumulative Impacts to Biological Resources

Cumulatively, impacts to biological resources may result from anthropogenic factors that directly or indirectly adversely affect habitat or result in direct loss of individuals, or from natural factors, including drought events, fire, predation and disease. Multiple factors may work together to accentuate adverse impacts to particularly vulnerable species. Major sources of habitat disturbance in the region include urban development, large linear infrastructure projects such as for highways, railways, and utilities, major renewable energy and mining projects, regional landfills, wildfire, and livestock grazing. These threats are discussed in detail in Appendix J of the 2006 WEMO FEIS.

Cumulatively, major factors which include enhancements for biological resources include lands being withdrawn from the land laws, ACECs and the strategies in ACEC Plans, the Fort Irwin lands that have been set aside for threatened and endangered species habitat since the approval of the 2006 WEMO Plan, and the DRECP strategies under development. In addition, wilderness lands are a reservoir of undisturbed habitat and properly functioning conditions.

Major land acquisition and disposal activities initiated prior to 2006 WEMO have resulted in the transfer of lands with major effects to biological resources management, including major expansions to the Fort Irwin Army Training Center, a BLM Land Tenure Adjustment Program for DWMA and MGS habitat, major acquisitions of DWMA habitat by the State of California, large regional landfill exchanges and expansions, and a major exchange and donation program for Wilderness and other sensitive lands in the high desert.

Since WEMO, the expansion of the Twenty-nine Palms Marine Base and the Kern County Parks acquisitions are also underway. These cumulative projects are in addition to the other WEMO adopted strategies, which are summarized herein.

Direct mortality and loss of individuals also results from habitat disturbing projects and wildfire. The acquisition projects for military use and landfills may result in additional take of individuals. Landfills also attract predators which are another source of mortality to desert tortoise.

Habitat loss due to further development outside of ACEC, DWMA, and MGS conservation areas would reduce populations of many common species, and increase the relative abundance of other species that thrive in disturbed areas. Some development is also allowed within these conservation areas, but to a more limited degree than outside the conservation areas. Most conservation areas for listed and sensitive species either have adopted disturbance caps under WEMO, or are considering them; therefore listed and sensitive species are adequately conserved, and therefore the cumulative impact would not be significant or adverse. Enhancements and mitigation offsets provided when listed habitat is disturbed also minimize adverse effects from projects to these sensitive species. The more common species would also thrive in conservation areas, and generally are present in abundance outside the WEMO Planning area.

In arid rangelands high stocking rates and low carrying capacity can result in native plant community shifts that favor unpalatable woody plants and the eventual loss of herbaceous native plant species and an increase in the density of non-native annual plant species. This loss includes special status plant species and riparian vegetation, both obligate and facultative. For most of the planning area, stocking rates have decreased, for some allotments substantially. Most riparian areas within grazing allotments have been fenced or grazing occurs outside the growing season. In addition, the WEMO Plan adopted a mechanism to eliminate grazing should carrying capacity not reach certain minimum thresholds, to assure adequate forage for both wildlife and grazing animals.

The DRECP currently includes proposals to reallocate forage from livestock to wildlife and watershed in various areas within WEMO. The reallocation of the forage to wildlife will assure the long-term availability of those lands to wildlife species.

Most of the planning area would not be affected by projects and would remain undisturbed for the reasonably foreseeable future. Major projects, such as large mines and renewable energy facilities may have localized impacts to sensitive resources. However, the acreage to those is small compared to the overall size of the planning area. The growth projections for urban development are focused adjacent to existing areas with greater disturbances and less public land, generally located outside of sensitive habitat areas. Many areas without water, utilities, or easy access would remain undeveloped, even from rural residences.

Riparian Habitat

Riparian habitat and springs can be particularly vulnerable to impacts as a result of disturbance or dewatering. As discussed in previous sections, these effects include erosion and resulting sedimentation, loss of plant cover, water quality impacts, dewatering, as well as impacts to riparian-obligate wildlife and vegetation. If sensitive areas are not fenced out or otherwise modified for avoidance, activities such as upstream mining, direct use of water sources by water-rights holders, vehicle use, and cattle (as well as wildlife) grazing activities may (1) dewater riparian areas, (2) result in damaged, trampled and destroyed vegetation, (3) result in utilization of the riparian vegetation, and (4) impact water quality. These impacts result in a decrease in vigor or complete elimination of vegetation from the riparian habitat associated with spring sources, where otherwise vegetation would be robust and often unique to the wetter microclimate. Smaller spring sources are also impacted by livestock and wildlife hoof action that typically creates divots known as "punching" in wet soils, can increase erosion, and can create poor water quality conditions.

The small riparian areas that are currently rated as non-functional or functioning at risk with a downward trend identified through the on-going PFC assessment process must over-time achieve the Rangeland Health Standard of Properly Function Condition. BLM's riparian objective is to improve the conditions of these important, but limited riparian resources in the desert. Typical mitigation measures used to accomplish this objective include fencing, rerouting or avoidance, adding additional troughs, re-routing pipelines systems and placing shut-off devices (floats) within the water delivery system.

Selected riparian areas have been identified through project-specific and the on-going PFC assessment process for avoidance, fencing and other enhancements to maintain or improve riparian habitat conditions. Fencing has already been constructed to protect riparian habitat on most of the West Mojave allotments. Impacts described above still occur at livestock troughs but do not degrade the actual spring sources and the associated riparian habitat within the exclosure. A few areas have also been artificially enhanced to improve them as wetland and riparian sources for obligate species.

Another measure instituted to avoid or minimize impacts to springs is the prohibition of salt and/or mineral blocks within one-quarter mile of these springs, which would draw livestock towards the spring. Any riparian area, developed or undeveloped that exhibits a downward trend in condition would be targeted for mitigation such as fencing, based on on-going impacts or the potential for future impacts.

Upland Vegetation

The utilization by livestock, horses and other wildlife of upland vegetation for forage affects the vegetation in a number of ways. Key forage plant species for livestock consumption are palatable species that may be utilized frequently, when available, as forage. Grazing utilization measures the proportion of degree of the current years forage production that is consumed or destroyed by livestock (ITR-Utilization Studies 1996). Utilization of key species during the critical growing period, typically spring may prevent formation of a seed-head and dissemination of seed. If this occurs year after year to the same population of forage species, a negative impact to recruitment occurs. If high levels of utilization occurs to a given population of forage species, those plant have less leaf area to absorb sunlight, produces lower levels of carbohydrates, and expends a considerable amount of energy on re-growth. This type of scenario results in poor plant vigor, lower abundance, and poor age-class distribution. As previously mentioned, forage utilization, plant vigor, abundance and age-class distribution of key species are generally more intensely impacted around water sources or high-use facilities due to constant soil compaction from trampling and continual cropping of vegetation from cattle and horses. Impacts to resource conditions next to water developments are expected, and the area impacted will vary in size. These types of negative impacts have occurred in portion of West Mojave allotments where the Native Species Standard is not being achieved.

Areas that have been affected by other habitat disturbing factors are more vulnerable to impacts from livestock and vehicles. In particular, wildfire may result in closure of areas for multiple years to allow vegetative reproduction and return of native communities. Under cumulative effects, those areas identified as not achieving the Native Species Standard may be subject to a livestock grazing deferment in the spring and fall grazing during the critical growing periods. BLM anticipates slow, but positive progress towards improvement of degraded native plant communities as a result of this corrective management action and reverse the downward trend in

rangeland health. This deferment from grazing during the critical growing period for native species is anticipated to favor recruitment, vigor and enhance species diversity in native plant communities previously degraded by past grazing practices in portions of the allotment. Desert tortoises prefer certain native annual forbs over non-native annual forbs (Jennings 1997). BLM has not inventoried for these annual native species so their abundance on West Mojave allotments is unknown, however under all alternatives native annual forbs located in the "deferment areas" would have the opportunity to germinate, grow and disseminate seed.

The additional changes in grazing practice as described in the 2006 WEMO Plan are anticipated to make positive progress toward achievement of the Native Species Standard by reducing the utilization thresholds from 40% to as low as 25% on select key species allotment wide which would allow for greater leaf area to absorb sunlight. This improves plant vigor and production, and reduces the contribution of grazing to vegetation impacts. There are two other grazing operational prescriptions contained in the 2006 WEMO Plan that would not authorize ephemeral portion of the perennial/ephemeral authorization and would not authorize temporary non-renewable use, regardless of production. These provisions would further reduce use of forage species on the allotments in more productive years, providing for very high recruitment and increased vigor.

The 2006 WEMO grazing prescription that requires exclusion from portions of select allotments when ephemeral production is less than 230 lbs./acre has a beneficial impact to the vegetation that is excluded from grazing during those seasons. This would minimize impacts to reproduction and plant growth during these poorer production years. However, already stressed vegetation in portions of the allotment where grazing would be allowed may suffer from slightly higher levels of utilization, which in turn can mean lower or no reproduction and poorer plant vigor during those growing seasons, unless stocking rates are appropriately adjusted.

Natural climate fluctuations can also have a significant effect on desert vegetation, but not all desert natives are consistently affected by these fluctuations. Beatley (1980) concluded that most of the living plants in the Mojave Desert in 1963 were still present when she remeasured her plots in 1975. An additional 20-30% of the plants measured in 1975 were new, and total cover had increased as a result of high rainfall in the late 1960s. Beatley concluded that the size and cover of woody perennial plants in the Mojave Desert are strongly correlated with precipitation.

The period between 1975, when Beatley last measured the plots, and 2000 had several climatic extremes. The period of 1977-1984 was one of the wettest periods of the 20th century, and extreme droughts occurred in 1989-1991 (Hunter, 1994), 1996, and 1999. Many shrubs died during these years, making droughts a major mechanism for change in Mojave Desert ecosystems. Despite the droughts, the increase in biomass between 1963 and 2000 is striking. Associations dominated by creosote bush (*Larrea tridentata*) had large increases in the sizes of individual plants as well as increases in total cover. Some blackbrush assemblages, in contrast, lost total cover, probably as a result of the droughts, reflecting the significant differences in drought tolerance between various native species of the desert. Some non-native species such as brome (*bromus madritensis*, ssp. Rubens) can be extremely hardy during drought periods, and during those periods readily outcompete native species (Monitoring Of Ecosystem Dynamics In The Mojave Desert: The Beatley Permanent Plots, USGS Fact Sheet 040–01, Webb, Robert H, et al.).

Special Status Plants

The WEMO Plan resulted in cumulative impacts, both positive and negative, to most of the sensitive plant species addressed in the Plan. The beneficial cumulative impacts include the establishment of large, unfragmented habitat blocks, strategies to block up public lands in those areas, measures to reduce tortoise mortality, measures to minimize disturbance impacts to conserved lands and measures addressing unique components of diversity, such as endemic species, disjuncts and habitat specialists.

Most special status plants are locally distributed in distinct areas, although new populations are occasionally identified. Generally projects are designed to avoid concentrations of these species. Mining projects have, in the past, adversely affected listed and sensitive species. Usually, the most sensitive areas are withdrawn or otherwise protected from these types of use. Based on BLM records, cattle grazing activities have not been identified as adversely affecting BLM special status plant species that are located within allotments, like the Mojave monkey flower, or Unusual Plant Assemblages (UPA). Areas identified for protection of special status plants do not authorize grazing, unless their distribution makes fencing impracticable. Cattle generally do not prefer to graze the Mojave monkeyflower or many of the other BLM special status plant species because they often occur in unique habitats, such as rocky, mountainous habitats, so the potential for grazing this species is low; however livestock could potentially utilize and trample BLM special status plant species. Again, this potential is low because livestock are not concentrated where special status plant species populations exist.

Common Wildlife

Most wildlife species are mobile and can avoid being hit by vehicles or trampled by cattle. Some wildlife are generally taken in association with major construction projects or during prescribed burns and wildfire. Impacts to common wildlife from livestock grazing are typically indirect. Livestock may impact wildlife indirectly by modifying habitat on which wildlife depend. Livestock can modify habitat by disrupting soils and damaging vegetation. Soils are impacted through hoof shearing and by soil compaction. Vegetation can be removed if trampled or overgrazed. Impacts identified above typically occur near salt licks and watering holes where livestock congregate. Soil compaction typically occurs along cattle trails, however this compaction is very localized and limited and the impact to common animals is generally negligible. BLM's enforcement of land health standards on this allotment will serve to ensure that adverse impacts to common wildlife are avoided.

Sensitive Wildlife Species

Direct cumulative impacts are not anticipated to occur to most sensitive wildlife; impacts primarily occur to wildlife habitat, as discussed above. The vast majorities of the sensitive wildlife species are mobile and can avoid being injured or taken, unless they occupy very specialized habitats. Although cattle degrade habitat, most impacts are localized. Therefore, grazing is not anticipated to directly impact sensitive wildlife species.

Desert bighorn sheep occupy specific areas during lambing, and at that time can be very sensitive to disturbance and noise. This factor is a consideration in siting of projects, and cumulative impacts are generally the result of casual uses or military overflights. Desert bighorn sheep do not typically occupy the same habitat as livestock, although they may share common watering holes. Ephemeral sheep operations are not authorized in allotments that contain occupied habitat

for Bighorn sheep. Cattle and horses generally inhabit alluvial fans and washes and extend into higher elevations on gentle, less rocky slopes than those preferred by bighorn sheep. Bighorn sheep and cattle primarily interact at water sources (Wehausen and Hansen, 1986). A potential impact of this interaction could be the spread of diseases from cattle to bighorn sheep. The extent of this potential to spread disease and how it impacts the bighorn sheep population as a whole is unknown, due to small sample sizes in studies and the presence of other factors impacting the sheep populations.

The impacts of cattle grazing on bighorn sheep in the West Mojave allotments are considered minimal. If suitable habitat exists on an allotment, Bighorn sheep have been observed grazing, bedding and watering with cattle. These observations indicate some level of compatibility. Many of the perennial water sources located on these allotments, both manmade and natural, are not utilized by Bighorn sheep because of the location on the landscape. The water sources utilized by Bighorn sheep and on occasion with cattle present are typically in mountainous areas that allow for escape cover.

The Mojave fringe-toed lizard occupies a special habitat niche that includes sand transport ecosystems in specified locations in the planning area, and therefore is a less mobile wildlife species, although there is evidence of movement between blowsand patches. Cumulative impacts are primarily the result of substantial habitat fragmentation particularly along the Mojave River, which constitutes approximately one-fourth of the occupied habitat and is primarily in private ownership. Other areas with potential habitat have been surveyed and several include occupied habitat sites. The WEMO Plan included strategies to protect habitat in 3 key areas that are known habitat for the species. Studies that are in progress at this time will provide additional information on species density and movement over time, and to what extent the species is impacted by motor vehicle travel.

Desert Tortoise

The 2006 WEMO Plan concluded that the newly established conservation areas established would cumulatively add to the existing conservation areas (1.15 million acres), resulting in greater protection of desert tortoise habitat. For the primary communities of this habitat, creosote bush scrub and saltbush scrub, the increased area in habitat conservation is 23-34 percent, just from the WEMO Plan, not including the subsequent habitat protection program on Fort Irwin lands. Most of the other species that are more localized in distribution similarly benefitted from the WEMO strategies, withdrawals, and disturbance caps.

The WEMO Plan's establishment of additional tortoise DWMAs is consistent with the approach taken elsewhere in the listed range of the desert tortoise, and together these strategies further enhance DT species habitat and recovery potential. WEMO implemented the tortoise Recovery Plan's recommendation that up to four tortoise DWMAs be established in the West Mojave Recovery Unit, and is consistent with the establishment of a total of 11 tortoise DWMAs between the BLM's NEMO and NECO plans and that local government plans adopted in southern Utah and Clark County, Nevada. As a result, from a regional perspective, the WEMO Plan's tortoise conservation strategy was consistent with all applicable federal and local government plans.

To minimize impacts to the desert tortoise and its habitat, livestock grazing is deferred in portions of an allotment until after the critical growing period (March 1 to June 15) for both

perennial and annual native species if the biomass production on annual vegetation is less than 230 lbs./acre under the WEMO Plan. If the annual ephemeral biomass is less than 230 lbs./acre cattle is excluded from portions (exclusion area) of an allotment while allowing graze to continue in other portions of an allotment. This management action is intended to benefit habitat quality for the desert tortoise over time by allowing for sufficient quality and quantity of forage species and thermal cover during the peak tortoise activity periods.

The exclusion of grazing from portions of a perennial allotment could increase grazing pressure in those portions of the allotment where grazing would continue. The impacts to desert tortoise habitat in areas where grazing would continue may have increased grazing pressure. This would be a direct correlation to stocking rates. If stocking rates are low then impacts would be nominal, however if stocking rates are increased, impacts to desert tortoise habitat could be substantial.

Deferment of grazing use during the critical growing period for native vegetation (habitat) in areas with degraded habitat quality, deferment in areas not achieving the native species standard, and limiting utilization levels allotment-wide are positive cumulative actions for improving desert tortoise habitat quality.

Grazing does not impede the movement, dispersal or gene flow of desert tortoise because neither livestock nor fencing represents a physical barrier to movement, and there is sufficient habitat inside and outside of allotments. However, livestock congregation areas (water sources, corrals) would not be conducive to tortoise burrowing, nesting, or over-wintering due to soil compaction at those sites. These sites are very localized and only represent a relative few acres out of the total acres of an allotment's critical and non-critical habitat within allotment boundaries. Desert tortoises have been documented occupying rock shelters in the lower elevations of mountainous terrain. These areas are generally too rocky for livestock presence.

Most project and other land-use authorizations, as well as grazing leases stipulate that the permittee or lessee and employees are required to report to BLM the sighting of any injured and dead desert tortoise. These reports are followed up by an investigation on the cause of injury or mortality. This requirement assists BLM and FWS in making a determination of direct impacts to the species and when reinitiation of formal consultation is required. In the course of annual rangeland monitoring, and project and allotment compliance checks, the monitoring for incidental take is conducted concurrently.

The November 2007 amendment to the January 9, 2006 Biological Opinion (1-8-03-F-58) contains an Incidental Take Statement (ITS) specifically calculated for livestock grazing operations in the West Mojave allotments. Since the issuance of the 2007 amendment there has been no documented or reported case of incidental take associated with livestock grazing.

The continuation of livestock grazing within some conservation areas would result in a cumulative effect to sensitive biological resources consisting of riparian habitat, upland vegetation and wildlife habitats, and similar effects outside of conservation areas. In both upland and riparian habitats, livestock grazing utilizes native vegetation, both herbaceous and woody as forage.

The allocation of lands for different uses in the WEMO Plan should not be considered as the final determination of land use for the planning area. It is rather a dynamic process of utilizing the best available science and land use planning to achieve conservation of species and

communities identified to be in jeopardy. Technologies of the future can and are expected to alter provisions of the Plan to improve upon the implementation of its objectives.

Natural Communities

In the context of the entire Mojave Desert, the WEMO Plan connects to public lands in the Inyo, Sequoia, Angeles and San Bernardino National Forests. New conservation near the latter two Forests includes the linkage to the Poppy Preserve, the Big Rock Creek Conservation Area, and the Carbonate Endemic Plants ACEC. The linkages within Los Angeles County would prevent future isolation of the Poppy Preserve and Saddleback Buttes State Park. The WEMO Plan adjoins the Coachella Valley Multiple Species Habitat Conservation Plan near Morongo Valley, and land uses in this area are compatible with both habitat linkages and protection of species in common to the two plans (triple-ribbed milkvetch and Little San Bernardino Mountains gilia). The WEMO Plan recognized the impacts from recreation and route designation to natural communities, and concluded that impacts of recreation and route designation to natural communities are primarily cumulative in nature. Some species are more sensitive to route specific impacts because of their very limited distribution. However, most of the more intensively used OHV Open areas are within the creosote bush scrub, desert wash and saltbush scrub communities. Riding on playas is also popular and may impact the adjacent alkali sink scrub vegetation.

Some potentially sensitive species in these intensively used areas are protected by fencing, and the size of the larger OHV Open Areas provides some intact natural communities away from heavily used staging and start areas. Areas adjacent to population centers are also more intensively used, and the problem is compounded by intensive use on adjacent private lands. In remote or mountainous areas, most travel is confined to roads, so that the woodland communities (Joshua tree woodland, scrub oak, pinyon pine woodland, juniper woodland) suffer relatively fewer direct vehicle impacts.

Outside of the OHV Open Areas, habitat fragmentation is an issue in other areas with a large number of routes, depending to some extent on the frequency of use. This fragmentation is exacerbated in areas with substantial route proliferation. Of the four alternatives evaluated in this SEIS, Alternative 3 would result in the greatest increase in open motorized routes within sensitive biological areas, and therefore would have the greatest potential for impacts to sensitive biological resources. No Action would result in the greatest potential impact to habitat outside of DWMA, and Alternative 3 would result in the greatest potential impact to habitat within DWMA, based on area-wide potential for disturbance.

Alternative 2, by closing the largest mileage of routes and applying the most restrictive minimization and mitigation measures, would result in the fewest adverse impacts to biological receptors over the long-term. All alternatives include an immediate strategy of signing closed routes and providing educational information for the public, which will result in a moderate level of compliance of the route network. The rate of active closures anticipated is similar for all alternatives, so active disturbances would not vary substantially by alternative in the reasonably foreseeable future. Alternative 2 is anticipated to reduce and displace overall use to outside DWMA and MGS habitat to some degree, but is also likely to result in an increased intensity of use on the remaining network in these areas. Other alternatives are likely to change the balance between use and intensity in these sensitive areas. In other ACEC, use and intensity of use is not anticipated to substantially change.

Where motorized routes exist, the contribution to cumulative biological impacts in sensitive areas would still be adverse. Providing additional opportunities in less sensitive areas and directing recreational and commercial activities to OHV Open Areas and the less sensitive areas mediates the cumulative impacts but does not eliminate them. When placed in context of other developments within the West Mojave, including land development, mining and recreational use of habitat lands, as well as the beneficial effects of WEMO management strategies, additional wilderness designation, enhanced protection of sensitive habitat on Fort Irwin, and DRECP strategies, the reduction in surface disturbance by measures to manage, enforce, and restore routes impacting vehicle-sensitive species would be beneficial under all alternatives. In the long-term, Alternative 3 does not directly benefit the species in DWMAs as well as No Action, which is an adverse impact to natural communities.

Invasive, Non-Native Species

Invasive species can occur as a result of direct spread of seeds, stressing of native habitat, and surface disturbance and loss of native vegetation, which facilitate the colonization of invasives over many native species. Natural wind conditions in the desert, non-native plantings, wildfire, vehicle use, and the presence of livestock and wildlife can directly spread the seeds of invasive species. Mechanisms for spread include airborne-spread of seeds, seeds sticking to vehicles or to the hides of animals, and deposition of seed through livestock and wildlife digestive systems (Belsky 2000). Historically, non-native plantings by rural residents and project managers, often as windbreaks, have been major contributors to non-native species spread. Current practices prohibit such plantings on authorized projects, but seeds may still be spread by the use of equipment and vehicles on site. Similar spread of seeds is associated with OHV use as described in previous sections. Wildfire continues to be a major source of introduction of non-native species. Post-fire rehabilitation efforts provide for some level of planting or seeding to encourage native species to more quickly be reestablished. Projects which authorize disturbances create conditions that can encourage invasive species. These species can then spread far beyond the project boundaries. These project impacts are minimized by the use of best management practices, such as specific plantings of native species, and treating weed populations with herbicide applications.

The extent to which poor grazing practices contribute to the spread of non-native invasive species on the West Mojave allotments is unknown. However, some grazing practices like overgrazing do reduce the diversity, and reproductive abilities of these native, desert plant communities (Boarman 1999). This in turn promotes the establishment and spread of non-native invasive species that now occupy habitat once primarily inhabited by native species, because poor grazing practices degrade palatable native plant species resulting in a reducing its ability to reproduce, poor plant vigor, poor age class distribution and lower overall productivity. This allows highly aggressive non-native herbaceous plants to invade habitat occupied by stressed native species or habitat once occupied by native species.

The West Mojave allotments that authorize year-long continuous use, often grazing the same area at the same time, year after year, may have contributed to a transition of the native herbaceous ground cover to invasive and non-native species over portions of the West Mojave allotments. This is also the case in areas that serve as corral facilities for livestock and wild horse and burro distribution and collection. The lack of periodic rest for native species in these areas contributes to habitat more vulnerable to invasion by non-natives. The palatability of non-

native vs. native plant species to livestock varies based the species and phenological stage. Overall livestock prefer native forbs over non-native forbs however non-natives forbs typically germinate earlier in the growing season and are generally grazed in an earlier phenology stage than natives which can in some years favor native forbs in the production of seed into the seed bank. Depending on density, the utilization of native forbs can be lower than utilization levels on non-native forbs because native forbs are most palatable when there is the highest level of forage diversity available to the cattle.

Grazing practices that allow for periodic recruitment opportunities commonly have lower densities of non-native species and are more compatible with sustaining native plant communities. Mitigation measures like the deferment of grazing in the spring and fall, strict compliance with the grazing prescriptions contained in the 2006 WEMO Plan, and the other grazing stipulations identified in that plan and in subsequent allotment-specific environmental assessments aid in improving native plant communities and in reducing the spread of non-native invasive species. The lowered utilization thresholds on key forage plants and other requirements should improve the overall trend of native plant communities. However, once such communities get established, they can be very difficult to eradicate.

Overall, the current densities of non-native invasive species on the allotments being analyzed in this document is consider light to moderate based on ocular estimates. Annual fluctuations in densities are directly influenced by the amounts of late winter and/or early spring precipitation.

Socioeconomics

Cumulative socioeconomic impacts to the WEMO Planning area primarily associated with urban development, infrastructure development, mining activities, and regional economic growth and activity. These impacts can be significant and are relatively unaffected by the specific routes and network alternatives in the WEMO Planning area.

Local socioeconomic conditions, including employment rates, addition or loss of industries, military installations, and even single employers can impact the local or regional economies of San Bernardino, Kern, Los Angeles, and Inyo Counties. Grazing is anticipated to continue at or below current stocking rates. These stocking levels are at their lowest point when compared to historic levels, and if the WEMO Plan is fully implemented, are expected to continue to decrease. Therefore grazing continues to have a nominal influence on local economies in the area.

The loss of a substantial portion of the Johnson Valley OHV Area could substantially impact individual businesses but is anticipated to have a nominal effect on the local economies in the surrounding areas. For areas that are more tied to tourism, impacts would be somewhat greater. Of the four alternatives evaluated in this SEIS, Alternative 3, by focusing on maximizing access to both recreational and authorized users, would have the greatest cumulative contribution to socioeconomic impacts. Conversely, Alternative 2 would limit the areas in which recreation could occur, could restrict access to those areas, and could make it more difficult for authorized users to access their facilities. As a result, the contribution of Alternative 2 to cumulative socioeconomic impacts would be adverse, as compared to the No Action Alternative. However, overall, the route network and its associated goals, objectives, and minimization and mitigation measures on recreation and, to a lesser extent, on the ability of authorized users to access their facilities, have a nominal cumulative effect on socioeconomics regionally.

Recreation

Sources of impacts to recreation include conversion of recreational lands for other land uses, such as for military use, urban development, major projects that foreclose access, closure of lands to one or more recreational uses, and modification of lands which decrease its suitability for recreational pursuits. The 2006 WEMO Plan concluded that no significant cumulative impacts to recreation were to be expected. Historically over time, acreage available for motorized recreational opportunities in the WEMO Planning Area have been decreasing from a peak in the early 1970's until today, through a combination of urban and regional development and projects, designation of wilderness and National Parklands, closure of other areas, and expansion of military installations.

These changes, taken together, have resulted in a significant reduction of the land available for motorized recreation in the WEMO Planning area since the CDCA Plan was adopted. This loss was partially anticipated and offset in the CDCA Plan with the designation of OHV Open Areas, and subsequent additions to those areas had nominally increased that acreage prior to the most recent military expansion project. Non-motorized recreational opportunities have remained fairly constant, although substantial additional areas have been set aside by Congress that provide for exclusively non-mechanized use., such as designated wilderness areas.

Prior to the signing of the WEMO Plan, lands north and east of Black Mountain were among those lands transferred by Congress to Fort Irwin. At the time of the WEMO Plan, it was unclear whether these lands would be completely foreclosed from recreational use. This area is now no longer available for motorized vehicle recreation. Recreational use of most of this area was never particularly high, so the scale of the displacement was relatively small compared to other closures. However, these lands were removed from major highways and population centers, and therefore offered a remote recreation experience that is no longer available. The military expansion also included the substantial portion of a series of dry lakes that were very popular for organized recreational land-sailing activities. Since the expansion, no major land-sailing organized events have been permitted in the area.

There are not major conflicts between authorized access routes and recreational access and uses. There are localized conflicts between recreationalist and campers related to the presence of cattle manure on or near allotment routes, especially near watering or corral facilities. A few authorized routes, particularly to mines which are regularly travelled by large mine trucks, exclude travel to the public for safety reasons. Other routes may limit public access to prevent vandalism of facilities. Permits to apiaries and livestock grazing may moderately increase the potential for conflicts with OHV riders, such as collision potential from high-speed riders with cattle or the harassment of cattle or bees by OHV. The presence of authorized facilities is generally associated with authorized access for maintenance; and the need for continued available access to these facilities may facilitate access by recreational users. Long-distance linear facilities in particular, facilitate popular long-distance recreational access routes in the planning area.

As a result of the WEMO Plan, a large portion of the Rands ACEC and a few additional, relatively lightly used or small sensitive areas were also closed to motorized recreation. The permit system in the Rands mediated the closure to that area somewhat, but substantially constrained motor-vehicle based recreational activities. Stopping and Parking constraints in

WEMO further limited recreational opportunities in DWMA, particularly for those with secondary vehicles or large RVs.

Route designations in the 2006 Plan generally redistributed use from more sensitive biological areas for listed and certain other sensitive species to less sensitive biological areas. This has resulted in recreational four-wheel drive and motorcycle use that was shifted to some extent from more resource sensitive areas to less sensitive areas. These shifts generally were from more remote to less remote areas, or to more mountainous or steeper terrain within the planning area. This was anticipated to increase use in nearby OHV Areas, as well as pressures on the network located nearer to urban interface. As motorized recreational activities shift to the remaining OHV Open Areas or other lands that have flatter terrain outside of DWMA, additional conflicts with adjacent land owners are anticipated. Such conflicts already exist in heavily used areas south of the, Stoddard Valley OHV Area. These lands include intermittent private lands that are both a source of impacts and receive impacts from trespassing adjacent public lands motorized users.

Since the WEMO Plan, the impacts of other activities and land-use allocations on recreation, and motorized recreation in particular, have continued the historic trend of foreclosing opportunities. An additional military base expansion significantly reduced the available OHV Open Area acreage and the designation of additional wilderness acreage together have resulted in approximately another 200,000 acres that are foreclosed from motorized recreation. Proposals in the concurrent DRECP Plan under development potentially include more restrictions to motor-vehicle use in various locations throughout the planning area. In particular, new conservation areas and additionally constrained areas will result in direct loss of access and fewer developments and activities in those areas that, over time, will result in less access.

The impacts to recreation from these changes are somewhat mediated by the size of the planning area and the many recreational opportunities it provides. The impacts are exacerbated by the increasing pressure that a growing population and pool of OHV riders has created over time. Since 1980, population in the high desert has substantially increased, as has the demand for OHV recreation. Coupled with decreasing opportunities and the increasing demand, recreational impacts are considered to be cumulatively significant.

Of the four alternatives evaluated in this SEIS, Alternative 2 would have the largest overall adverse cumulative impacts to recreation because it would result in closure of the largest mileage of routes, and application of the most restrictive minimization and mitigation measures, including a more restrictive network in the DWMA than is currently in place. Areas previously accessible for non-motorized recreational pursuits from nearby trailheads or parking sites would become less accessible. The contribution of Alternative 2 to cumulative recreation impacts therefore would be adverse, as compared to the No Action Alternative. Conversely, Alternative 3 would be beneficial with respect to motorized recreation, as it would maintain the largest network of motorized routes, maximize access to non-motorized recreational areas, provide the most diverse recreational opportunities, and apply the least restrictive minimization and mitigation measures. Under Alternative 3, recreational opportunities would be more widely dispersed, and would include a balance of more remote and less remote opportunities for motorized recreation.

No Action would have the largest adverse cumulative impacts to non-mechanized and non-motorized recreation, because no additional non-motorized routes, trailheads, or campsites would

be offered. Campsites identified in existing ACEC Plans would be maintained. Alternative 3 overall provides the most opportunities for non-mechanized and non-motorized designated routes, but other alternatives also provide for a substantial range of these opportunities.

Depending upon the alternative, portions of the planning area are likely to see nominally less or more, or moderately greater recreational use, and overall recreational experience may be somewhat changed. Although a variety of routes and terrain are afforded by the route system, the opportunity to have a "remote experience" is expected to become increasingly difficult during the term of the project due to the cumulative effects of various constraints on remote access. However, the loss of recreation opportunity, together with the rapidly growing Southern California population and the anticipated continued growth in motorized recreation, would displace some visitors onto the smaller remaining BLM land base. The cumulative effect of this is likely to be an increase in impacts to these less remote areas, increasing conflicts in those areas, and the displacement of visitors seeking a remote experience to more remote regions such as the NEMO and NECO Planning areas or onto adjacent jurisdiction lands that are remote and remain accessible.

Livestock Grazing

The 2006 WEMO Plan concluded that several actions would contribute to an overall loss of land designated for livestock grazing that the BLM administers:

- Fort Irwin Expansion: The Fort Irwin expansion includes part or all of the Goldstone (100 percent or 9,726 acres), Superior Valley (42 percent or 69,328 acres), and Cronese Lake (<10 percent or 4,200 acres) allotments. Fort Irwin does not authorize grazing. The Goldstone allotment would be entirely unavailable for grazing and the portions of the Superior Valley and Cronese Lake allotment located on Fort Irwin would be unavailable for grazing. This would represent a total loss of approximately 83,254 acres of public land designated for livestock grazing.
- Voluntary Relinquishment: Since the 2006, WEMO Plan, some permittees or lessees have voluntarily relinquished their livestock grazing preference for certain allotments. This has resulted in a reduction in the livestock grazing available on public land administered by the BLM.
- Losses of Ephemeral Sheep Grazing which occurred due to modified DWMA Boundaries and proximity to bighorn sheep locations: Allotments affected include those located entirely within DWMAs, including Gravel Hills (130,075 acres), Superior Valley (the remainder or 95,738 acres), Buckhorn Canyon (4,730 acres), Stoddard Mountain West Unit (63,889) and Shadow Mountain (80 percent or 41,806 acres). Portions of other allotments, including Johnson Valley (109,186 acres), and the Stoddard Mountain East Unit (82,681 acres) were also lost based on proximity to bighorn sheep. Portions of the Cantil Common, Monolith-Cantil, Lava Mountain allotments that are not within DWMAs, but were reduced as a result of the adoption of DWMAs in the 2006 WEMO Plan.

Since adoption of the 2006 WEMO Plan, additional changes have taken place that have resulted in further loses of livestock grazing.

- The permanent relinquishment of Lava Mountain and Walker Pass Common Grazing Allotments under the authority of the 2012 Appropriations Act (Public Law 112-74) and re-allocation of the 3,368 AUMs in these two allotments from livestock forage and use to wildlife and ecosystem functions;
- The 2014 National Defense Appropriations Act for the expansion of Twentynine Palms (MCAGACC) that resulted in the loss of 10,880 acres from the Ord Mountain Allotment.

In addition to the changes proposed in Chapter 2 (see Table 4.7-1 for summary), the cumulative effects of the implementation of the 2006 WEMO Plan are expected to reduce the size of the portion of the livestock industry centered on the use of BLM administered lands in the California Desert Conservation Area by approximately 465,871 acres. In addition, 119,940 acres were eliminated after the approval of the 2006 WEMO Plan through the two laws referenced above.

The DRECP Plan also proposes the reallocation of forage from livestock grazing to wildlife and ecosystem function for various allotments, including three allotments partially within DWMAs.

Under the other aspects of the WEMO Plan, as augmented by the subsequent allotment management plans, active grazing leases and permits would be renewed every 10 years, subject to additional consideration within 6 months of this Record of Decision. The terms and conditions contained on current grazing leases or permits would include the grazing prescriptions listed in the 2006 WEMO Plan, as well as other terms and conditions deemed necessary by the BLM Field Manager. These grazing prescriptions have eliminated ephemeral authorizations and temporary non-renewable (TNR) authorizations below 4,000 feet. They include key terms and conditions contained in previous grazing decisions related to cattle grazing in desert tortoise habitat. New range improvements or proposed changes in grazing management that would be considered more than a minor change, require additional NEPA and ESA consultation.

Livestock grazing would continue on the Ord Mountain Allotment located within the Ord-Rodman DWMA, with the additional mitigation measures for cattle grazing within a DWMA. These prescriptions ensure that there is sufficient forage available for tortoises to thrive and reproduce, and require that the grazing operation be consistent with recovery of the desert tortoise. The Ord Mountain Allotment and the associated grazing operation are not anticipated to be substantially impacted if required to exclude grazing from portions of the allotment in dry years (< 230 lbs./acre) for a three month period in the spring. The current grazing operation on this allotment has been substantially reduced in size and scope and this trend will continue into the foreseeable future.

Additional management actions in all allotments aimed at making positive progress toward achievement of the Native Species and Riparian/Wetland Rangeland Health Standards include deferment of grazing in specific portions of the affected allotments until summer and fencing off of spring sources, where feasible. There would be some additional cost to the lessees in terms of additional time and labor costs. It may take several years before improvement to native plant communities, in those areas deferred from grazing in the spring, can be detected.

There would be a positive, cumulative impact to grazing from the development of select range improvements because these projects enhance livestock distribution and reduce grazing pressure in other portions of the allotments, including the allotment that contains critical habitat (DWMA) for the desert tortoise, and any areas in the allotments that currently are not achieving rangeland health standards.

The cumulative effects from all of these actions, including the WEMO Plan, allotment management plans, and DRECP proposal(s) result in the following beneficial impacts to other resources: Air emissions, although minor from grazing operations would be eliminated; impacts to soils from these operations, although confined, would be eliminated; and any impacts to water quality from grazing operations would be eliminated. Any long-term impacts to cultural resources that have not already been permanently compromised by grazing activities, would cease to be impacted from these activities. The long-term impacts to native plant communities from nearly a century of livestock grazing would continue to be reversed, and the potential increase in non-native plant species from grazing in these allotments would be eliminated. The long-term impacts to habitat for special status species and general wildlife within the allotment boundaries for the ten allotment identified above would be beneficial. Impacts to recreation, ACECs and wilderness, although nominal would also be beneficial in most cases.

Generally, the cumulative effects of the plan amendment decisions and route designations are nominal on grazing and would not have a substantial cumulative effect on grazing activities. As with recreation, the cumulative effects on grazing since the CDCA Plan was approved in 1980 are significant and are unrelated to access management strategies.

On a more local basis, some network-wide minimization and mitigation measures and route designations may nominally affect grazing operations or require additional mitigation measures imposed on the grazing lessee. With respect to operation of the existing grazing allotments, Alternative 3 would have a beneficial impact by maintaining the largest mileage of motorized routes in allotments, which may be used by permittees and lessees to operate their allotments. Conversely, Alternative 2 would contribute, along with other actions which restrict access or impact operations, to adverse cumulative impacts by reducing the mileage of routes available to operators, resulting in nominally higher operating costs. Generally, alternatives and minimization and mitigation measures are consistent with grazing operation goals to manage other use and users in their allotments, and therefore would be supportive of current best management practices.

Energy Production, Utility Corridors, and Other Land Uses

Cumulative impacts to energy production have generally been beneficial. Prior to recent solar and wind energy EIS and the DRECP Plan, the CDCA Plan had targeted energy development in only two specific areas. Since that time, substantially more areas have been identified as suitable for energy development. Corridors for the transmission of energy and other utilities have remained fairly constant over time, but as needed, non-corridor areas have been authorized to transmit energy through the planning area.

The most substantial cumulative effects to other land uses have been to mining and mineral exploration. The 2006 WEMO Plan concluded that withdrawal of lands for resource protection would have at least a slightly negative impact on mineral development and other land uses. As with recreation and grazing, the cumulative impacts of closures since the original adoption of the CDCA Plan, including the 2006 WEMO Plan, are significant. As with recreation, some of the impacts from the 1994 California Desert Protection Act (CDPA) designation of wilderness were anticipated, and BLM recommendations on wilderness factored in to the assessments. However, actual wilderness designations, expansions of National Park units, and expansions of military lands from Congress since adoption of the CDCA Plan as well as ACEC adopted or proposed mineral withdrawals, have substantially exceeded anticipated withdrawals in the CDCA Plan.

Likewise, the cumulative availability of lands for exploration has been negatively impacted by the transition from "existing" routes to designated routes in the 2006 WEMO Plan. Exploration becomes cost prohibitive for most small miners if potential areas are too far from ground access points.

The alternatives proposed in this plan are not anticipated to substantially increase the negative impacts to mining or mineral exploration; however Alternative 3 may moderately benefit mineral exploration. On a local scale, the effects of the closure of specific routes under some alternatives may have a noticeable negative effect on a local level by increasing the mileage that miners and mineral explorers need to travel to reach their facilities or claims, or by placing time of day or seasonal restrictions on access.

Overall, of the four alternatives evaluated in this SEIS, Alternative 2 would have the largest contribution to adverse cumulative impacts to other land users because it would result in closure of the largest mileage of routes, and application of the most restrictive minimization and mitigation measures. The contribution of Alternative 2 to cumulative land use impacts would be adverse, as compared to the No Action Alternative. Conversely, Alternative 3 would be beneficial with respect to other land uses, as it would maintain the largest network of motorized routes, maximize access to other authorized land uses, and apply the least restrictive minimization and mitigation measures. On a site-specific basis, more limited access on some routes under this alternative may be consistent with the preferences of specific users and private landowners, who would desire to further restrict public access. Generally, the contribution to cumulative effects from the WMRNP would be nominal. The WMRNP would not include any additional withdrawal of lands, and access to the WEMO Planning area would be maintained, consistent with law, regulation and policy.

Cultural Resources

Cultural resources are a finite and non-renewable resource so loss of the information they contain is a permanent loss for which there is no mitigation, restoration, or rehabilitation. Opportunities for the public to view these sites in their natural surroundings and to experience the sense of exploration, adventure, and understanding that comes with observing them in situ are permanently lost. Our ability to provide educational and interpretive opportunities is decreased with the loss of each site or portion thereof. Prehistoric sites are repositories of cultural information about people who lived here into the far distant past and are of very great value and concern to Native American people today. Continued destruction removes pieces of our past on a daily basis.

In general, cultural resources have been adversely impacted over time by the implementation of the CDCA Plan, due to the limited cultural information that was available during the development of the plan, and the subsequent impacts of its implementation. However, the most well-known, important sites were recognized in the CDCA Plan, resulting in ACEC designations for cultural resources and management strategies to protect their significant resources. Other significant cultural resources have increased protection since the CDCA Plan as a result of major closures and wilderness designations, but the overall scope of these beneficial impacts is unknown. Therefore, substantial loss of resources has occurred from planned actions as well as general strategies that provided for various authorizations and casual use activities.

Prior to the 1990's few authorizations required Class III surveys and mitigation as a standard measure prior to on-the-ground disturbance. Later authorizations have included such surveys and the results of these surveys serve as one of the primary cultural resource informational sources in the WEMO Planning Area. Two major land-exchange programs in the 1990's resulted in both beneficial and adverse impacts to cultural resources. Exchanges and acquisitions which resulted in blocked up wilderness areas were beneficial. Other programs resulted in both beneficial and adverse impacts to resources, but the relative impacts, on balance, are unknown. Landscape level surveys have not addressed cultural resources that may be affected by these large programs or casual use activities.

The 2006 WEMO Plan concluded that cumulative public land impacts to cultural resources that would otherwise be significant would be mitigated through the Section 106 process. It was not clear whether the impacts of the plan would be beneficial or adverse, or how the Section 106 process would be utilized. Some of the impacts to cultural resources from the 2006 WEMO Plan would be beneficial. Area closures and withdrawals, and generally construction activities which restrict access or provide public information and keep the public on routes, would generally be beneficial. Ground disturbing activities are preceded by surveys and siting may be adjusted to protect cultural resources.

Some adverse impacts from the WEMO Plan may occur as a result of loss of resources that cannot be conserved. Land exchanges proposed in the WEMO Plan may have beneficial as well as adverse impacts, but are generally beneficial to cultural resources. Prior to exchange or sale out of public ownership, surveys are conducted and if significant resources are found, the affected lands may not be included in the exchange or disposal package unless management would be consistent with the protection of the resources. Multiple Use Class (MUC) changes in general do not impact cultural resource protection. Authorized activities follow standard protocols regardless of location, and the MUC does not imply specific additional (or fewer) protections to cultural resources.

The 2006 WEMO Plan provided some limits on cultural resource impacts from the route network by eliminating the "existing routes" language, thereby clarifying the routes that would no longer be available for use, and which would no longer have impacts to cultural resources from casual use access. The overall degree of improvement is unknown, although decisions on specific routes did identify cultural resources as a factor for closures. The impacts to known cultural resources from the designated WEMO network are unclear. Additional field work has been gathered for use in this planning effort and this information gathering continues. Two field teams have been engaged and are continuing this data collection, at substantial BLM expense. Even so, it is anticipated to take dozens of years for development of a comprehensive cultural data set.

Within the West Mojave planning area there are approximately 1,928,926 acres of public land authorized for livestock grazing. Of this total, active livestock grazing operations are continuing on approximately 928,597 acres in the WEMO Planning Area. The Supplemental Programmatic Agreement for Cattle Grazing allowed 10 years to complete cultural resource surveys of the grazing allotments. The agreement "allows for renewal of an existing grazing lease or permit as long as Protocol direction, the BLM 8100 Series Manual guidelines (Protocol Amendment F), and specific stipulations are followed. Field surveys pursuant to the Supplemental Programmatic Agreement for Livestock Grazing between the BLM and California SHPO for the WEMO active allotments are nearly completed. Areas with natural water sources, fence lines, salt licks, and

other cattle congregation areas were the main focus of these surveys. The results of the surveys will be analyzed in conjunction with activities proposed under the existing allotment management plans and associated NEPA compliance.

The opportunities for the public to view cultural sites in their natural surroundings have decreased over time, both as a result of closure of areas and of vandalism of important cultural sites. Significant vandalism can occur anywhere and maybe the result of one action, rather than the result of cumulative effects per se, although vandalism likelihood increases in more accessible or more well-known sites. Tribal access is relatively unaffected by route designations, because accommodations are built into the designation mechanisms; and access to sacred sites is addressed with tribes on a location by location basis as is additional research with universities and other archaeological professionals if not anticipated at the time of designations.

Of the four alternatives evaluated in this SEIS, Alternative 3 would have the largest contribution to adverse cumulative impacts to cultural resources because it would result in maintaining open motorized routes within close proximity to more identified cultural resources, and is estimated to result in more impact to unknown resources. Alternative 2, by closing the largest mileage of routes and applying the most restrictive minimization and mitigation measures, would result in the fewest adverse impacts to cultural resources. However, where motorized routes exist, the contribution of Alternative 2 to cumulative cultural resource impacts would still be adverse.

A programmatic approach to Section 106 compliance for BLM routes of travel within this planning area is currently in development in consultation the with California Office of Historic Preservation, the Advisory Council on Historic Preservation, Tribal and agency partners that includes on-the-ground evaluation of representative cultural resources as part of the analysis of impacts for the alternatives, and strategies to address cultural sites that cannot be assessed in a timely manner. Additional on-the ground survey activities began in September 2014 with two field teams.

Visual Resources

Visual resources are similar to cultural resources—generally a finite and non-renewable resource so loss of the scenic landscapes is a substantial loss for which there may be no mitigation, restoration, or rehabilitation. Some changes to landscapes become scenic landscapes over time, and there is substantial subjectivity in determining and assessing impacts to scenic landscapes. However, overall, impacts to landscapes are lessened when areas are closed or otherwise protected from disturbances, or when those disturbances are minimized.

The cumulative impacts to landscapes prior to the WEMO Plan are difficult to assess overall but included some substantial beneficial impacts as a result of designations and expansions of National Park Units and wilderness and area closures, as well as BLM strategies to consolidate public lands in less disturbed areas with more scenic vistas. The cumulative adverse impacts are not evenly distributed in the planning area, and are focused on the viewsheds around urban landscapes, from the freeway and highway corridors, and near the major utility corridors through the planning area, as well as the cumulative adverse impacts to viewsheds resulting from project-by-project additions throughout the planning area, some of which may be more or less noticeable on the landscape.

Generally the impacts of the 2006 WEMO Plan are beneficial to visual resources, as discussed in section 4.2.3.7 of the WEMO FEIS, by further limiting ground disturbances and identifying areas

for rehabilitation over time. In addition withdrawals to areas for protection of species will also protect scenic landscapes over time. Significant ground disturbances that would substantially impact viewsheds are not proposed in the WEMO Plan. DRECP is not anticipated to directly affect viewsheds but proposals for development and conservation areas will indirectly result in increasing potential impacts to some viewsheds and decreasing impacts to others.

The impact of the route networks evaluated in this SEIS to visual resources are primarily based on the closure of routes, which would allow routes to re-vegetate and resume their original appearance. Of the four alternatives evaluated in this SEIS, Alternative 3 would have the largest contribution to adverse cumulative impacts to visual resources because it would result in maintaining the largest network of motorized routes, and would also apply the least restrictive minimization and mitigation measures in those areas. As a result, Alternative 3 would result in continued use of routes, which would not be allowed to re-vegetate, and which would continue to present adverse impacts to visual resources. Alternative 2, by closing the largest mileage of routes and applying the most restrictive minimization and mitigation measures, would result in the fewest adverse impacts to visual resources. However, where motorized routes exist, the contribution of Alternative 2 to cumulative impacts would still be adverse.

Special Designations

The CDCA Plan is the initial source of ACEC special designations in the BLM, as well as the source for initial recommendations for wilderness, that became wilderness study areas. ACEC route designations and prescriptions serve as specified management actions that are more protective than the general multiple-use class guidelines given in the CDCA Plan. Over time, ACEC designations have been modified and in general, more special designations have been added and additional strategies have been developed in support of protection of the resources singled out in ACEC Plans, thus enhancing their protection.

Wilderness Study Areas (WSA), those areas not designated as wilderness and not released from wilderness study by Congress, are managed per the regulations and subsequent legislation, rather than as a result of the CDCA Plan. However, the CDCA Plan did become the basis for maintain "existing" primitive trails in Wilderness Study Areas.

The 2006 WEMO Plan concluded that ACEC management of tortoise DWMAs would constitute a significant beneficial impact relative to BLM management under the current habitat classifications. It would augment and refine protection ostensibly provided by the critical habitat designation or MUC L guidelines, and provide a BLM LUP basis for evaluation of potential impacts that may not be foreseen at this time, including to sensitive resources other than desert tortoise. Other ACEC designated in the WEMO Plan accomplish the same purpose for the specific resources for which the ACEC has been established, and address the threats to those resources. Specified prescriptions strengthen protection in places where the BLM MUC guidelines do not address the resources or do not address them in a manner appropriate to the specific threats identified. Other resources in ACEC also generally benefit from or are unaffected by the strategies and specific measures identified for ACEC in the WEMO Plan. Since the WEMO Plan did not make location-specific on-the-ground commitments of resources, other resources, if they may be adversely affected by measures, are evaluated prior to surface disturbance and may be mitigated or otherwise avoided.

The Ord-Rodman DWMA ACEC overlaps approximately 117,000 acres or 86 percent of the Ord Mountain grazing allotment. Specific relevant features that formed the basis for ACEC designation are the moderate to high densities of desert tortoise, the presence of critical desert tortoise habitat, and the potential of the area to support desert tortoise populations over the long-term. These factors met the importance criteria for ACEC designation because of the historic declines in desert tortoise populations and habitat throughout the southwest that eventually led to its listing under the Endangered Species Act.

Livestock grazing has historically been present in the Ord-Rodman DWMA ACEC for at least 50 years, and was present at the time of ACEC designation in 2006. At the time of designation, grazing use did not adversely affect the basis for which this area met relevance and importance criteria for ACEC designation, and a strategy to manage the presence of livestock for the reasonably foreseeable future has been included in the WEMO Plan as a component of the ACEC Plan. In addition to the Ord-Rodman DWMA ACEC there are several other ACECs, both cultural and biological co-located within West Mojave grazing allotments. In most cases, relevant and important resources have been protected from the impacts of grazing in key locations (e.g., fencing, exclosures, cattle guards, etc.) consistent with the ACEC Management Plans for each area.

The contribution of the alternative route networks evaluated in this SEIS to cumulative impacts to Special Designation areas would be partially related to the size of the route network within the designated areas, and somewhat related to the use of the network and parameters on stopping, parking and camping. Of the four alternatives evaluated in this SEIS, Alternative 2, by closing the largest mileage of routes and applying the most restrictive minimization and mitigation measures, would result in the fewest adverse impacts to Special Designation areas. However, where motorized routes exist, the contribution of Alternative 2 to cumulative impacts would still be adverse. The relative impacts of the other alternatives to ACEC is highly dependent on the individual ACECs.

With respect to identifying primitive trails that would remain available for use in designated Wilderness Study Areas, Alternative 4 has the greatest impact on WSA (i.e. the most primitive trails would remain), while Alternative 2 has the least impact on WSA (i.e., some of the "open" routes in the 2006 WEMO network would be "closed" in Alternative 2).

Wilderness

Wilderness designations have increased over time and as additional lands have been set aside; overall the wilderness character of these lands have been enhanced. The WEMO Plan, in providing additional disturbance caps adjacent to some wilderness and in reducing the level of motorized access to wilderness areas, enhances the wilderness character of some wilderness lands. Generally adverse impacts to wilderness values did not result from the 2006 WEMO Plan. Generally DRECP is not anticipated to adversely affect designated wilderness, and development focus areas would overall, indirectly reduce viewshed impacts from wilderness in areas with strict disturbance limit caps.

Under cumulative effects, the impacts to designated wilderness areas within West Mojave grazing allotments from grazing would be the same as what occurred prior to the passage of the CDPA. Based on low livestock numbers and limited seasonal use due to the lack of water the

effects of grazing are not considered substantial enough to adversely affect the wilderness character of the designated lands.

The reduction in the utilization thresholds on perennial forage to 25% during the growing season would be beneficial to the naturalness of the affected wilderness areas by protecting the natural composition of vegetation communities. Due to the lack of developed or perennial water sources these wilderness areas are primarily grazed in the winter/spring and typically with light stocking rates. There are currently very few range improvements in designated wilderness; however the development of future range improvements or the hauling of water in close proximity to wilderness boundaries would increase the number and duration of livestock grazing in wilderness areas. Since range improvements are driven by available water sources, it is reasonably foreseeable that at least one wilderness area may be impacted due to the location of suitable perennial water adjacent to its boundary. This may result in a nominal increased impact to naturalness and the opportunity for solitude when cattle are present. Impacts to wilderness from the development of a new range improvement would be documented and analyzed in the project specific EA that would be prepared prior to the development of any proposed project.

In the Ord Mountain Allotment the stipulation that requires a threshold of 230 lb/acre ephemeral forage production or greater to authorize grazing in portions of the DWMA would also be beneficial to the naturalness of the portions of the affected designated wilderness that overlap DWMA. The threshold would help protect native vegetation and consequently native wildlife by helping to prevent excessive use in dry years. During years when the threshold is not met, cattle would be substantially removed from the entire Newberry Mountains Wilderness areas from March 15th to June 15th. Wilderness visitors would have greater opportunity to experience an area without evidence of man during this time period.

For allotments that have been relinquished, the wilderness areas would benefit due to the increases in naturalness discussed above. The naturalness of the areas would no longer be impacted by the presence of a non-native species (cattle). The opportunity to experience an area without evidence of man would not be impacted by the presence of cattle. The wilderness character and the opportunity for solitude would not be affected by the sights and sounds associated with range improvement maintenance including occasional motorized equipment use in wilderness. In addition, there would not be any future potential to graze cattle in the area and range improvements could be removed to improve the areas' naturalness and provide a greater opportunity to experience an area without evidence of man. These beneficial impacts are not considered substantial, because the impacts of grazing did not substantially adversely affect the wilderness qualities at the time of area designations.

There are no direct impacts to wilderness from the alternatives, and therefore no direct cumulative impacts. The indirect impact of the route networks evaluated in this SEIS to wilderness are based on the closure of routes and parking areas along the boundaries of wilderness, which would eventually allow routes to re-vegetate and resume their original appearance and thereby increase the viewsheds of the areas immediately within the boundaries of the wilderness. These impacts are quite nominal; it is likely some footpaths or equestrian trails would remain to provide access to these viewsheds. Of the four alternatives evaluated in this SEIS, Alternative 3 would have the largest contribution to adverse cumulative impacts to visual resources because it would result in maintaining the largest network of motorized routes to access the boundaries of wilderness areas. However, designated parking areas that may be identified under Alternative 3 may result in better focusing impacts and targeting education to

specific trailheads and reducing visual impacts elsewhere. Alternative 2, by closing the largest mileage of routes and applying the most restrictive minimization and mitigation measures, would result in the fewest adverse impacts to visual resources. However, where motorized routes exist, the contribution of Alternative 2 to cumulative impacts would still be adverse.

Noise

The CDCA Plan did not explicitly address noise impacts, and noise impacts are difficult to address on a landscape level since the sources of noise are so diverse and measuring and enforcing noise impacts are difficult. Overall, the WEMO Planning Area is quiet because most of the planning area is rural. Exceptions would be along busy, major freeway and highway corridors and within the Victor Valley urban area. However, a major significant source of loud intermittent noises occurs throughout much of the planning area—sonic booms that are the result of military fly-overs. A major strategy approved in the 1990's and implemented in the following fifteen years to enhance desert tortoise habitat, also indirectly facilitated continued noise impacts by providing for military overflights to continue unimpeded. This acquisition and exchange program consolidated and blocked up public lands with sensitive resources, also prevented facilities that would extend into the airspace for these low-level military overflights.

The relative concentration of military overflights throughout the southern two-thirds of the planning area are the result of the location of four military facilities than "surround" the planning area within the east, west, and north-central areas of WEMO, and associated flight corridors between these bases and from these bases to other parts of Southern California and Nevada. No other noise approaches the decibel levels of intermittent noise that result from military overflights, and these noise levels are not substantially cumulative.

Other noises on public lands in conjunction with authorized activities are evaluated and addressed on a case-by-case basis. No general noise standards have been applied to all authorizations on public lands. The WEMO Plan did not explicitly evaluate or address this impact, but the general impacts of the WEMO Plan are anticipated to be beneficial in conservation areas, by further discouraging developments that result in off-site noises, and by constricting the route network and the relative number of noise sources. DRECP would support the general direction of WEMO in reducing noise impacts in conservation areas, and potentially exacerbating them in some parts of the development areas.

Of the four alternatives evaluated in this SEIS, Alternative 3 would have the largest contribution to adverse cumulative impacts due to noise because it would result in maintaining the largest network of motorized routes in close proximity to sensitive receptors and residences. Alternative 2 would result in the least adverse impact among the alternatives, as it would result in closure of the largest mileage of routes in close proximity to sensitive receptors and residences. However, Alternative 2 would result in the greatest impact from motorcycles, which is generally the loudest vehicle source of noise off-route. Generally intermittent noise impacts from OHVs is nominal, and the regulations limiting noise levels on motorcycles have resulted in a reduction in these impacts.

Travel and Transportation Management

In addition to public land transportation management, most adjacent jurisdictions have adopted transportation plans and route networks. Federal and State networks provide the backbone for all other transportation networks in WEMO, and have both responded to and shaped development

patterns in the Planning Area. County Plans generally recognize County maintained roads and other relatively well used access routes than emanate from the federal and State roads and extend through and connect to local jurisdictional roads. The County General Plans include and transportation component that provides strategic transportation guidance. Local jurisdictions have adopted their own transportation plans that include the routes within their borders as well as limited strategies for future road developments and upgrades to serve their communities. Over time, these plans have responded to public demands, primarily focusing on needed upgrades and connectors between existing major routes, or to new community developments. A few routes that provide access to the major recreational destinations (OHV Areas) have also been singled out. Generally these local plans are not designed to restrict or direct access so much as to respond to access needs as they become evident.

The rest of the transportation network has primarily been overseen by federal agencies with the cooperation of other potentially affected jurisdictions. The military, Forest Service and National Park units have designated routes and route purposes for the networks on lands under their respective jurisdictions, within or adjacent to WEMO public lands. Their land management strategies, over time, have restricted and directed transportation access in significant ways.

On BLM lands, the CDCA Plan did not inherently recognize a specific route network on public lands, other than an "existing" route network that has been difficult to define. Since the CDCA Plan, route designations have been crafted out of a patchwork of authorized routes for site-specific projects, sensitive area route designations under ACEC Plans, location-specific route designations to coordinate with adjacent jurisdictions or for route-specific closures, specific project access decisions, and field office sub-region route designations for portions of areas. In 2000, the first districtwide comprehensive route designation network began to be crafted under various bioregional plans, including the WEMO Plan.

The WEMO Plan route network is one of several in the CDCA which have been developed for routes on public lands since 2000. Public access networks have now been adopted on public lands adjacent to the WEMO Planning Area in four adjacent areas in the CDCA, including the NEMO, NECO, Coachella Valley, and the Western Colorado Desert (WEC) deserts, as well as on adjacent lands to the north of the CDCA in the Bakersfield District. There are an unknown number of additional linear features on the ground within these planning areas, and additional designations will continue to be carried out for newly identified features, as well as to capture routes under mining plan, permit, right-of-way, or lease that may have been excluded, consistent with current policy and guidance.

The WEMO Planning area's public land base is approximately 31 percent of the public lands located within the CDCA, and the physical extent of those public lands is higher, covering 9.2-million acres of the 25-million acre CDCA (36.8 percent). The large expanse of the planning area coupled with the multiple-jurisdictional interface of the transportation network has resulted in a substantially larger route network in the WEMO planning area than in other parts of the CDCA. Before the new inventory, 43.1 percent of the open routes were estimated to occur within the WEMO planning area, based on the inventories available at that time. Following adoption of all six route network planning efforts, approximately 37.6 percent of the CDCA's open routes were believed to be located in the West Mojave Planning area. Approximately 60.6 percent of route closures were estimated to occur within the WEMO Planning Area. The relative percentage of closed routes would be substantially higher using the new inventory information, but it is likely that closed route estimates are low elsewhere.

Generally, the route figures reflect the much higher historic usage of WEMO public lands, due to their location immediately adjacent to the Los Angeles metropolitan area and the rapidly urbanizing Antelope and Victor Valleys, the continuing urban interface issues that affect the planning area, and the multi-jurisdictional transportation networks that have arisen out of many different needs.

The West Mojave route network under each alternative has been designed to provide access to recreation venues identified by field surveys and to meet commercial and other access needs, in a manner compatible with sensitive species conservation. The WEMO network should connect seamlessly with the networks in adjacent planning areas and on Forest Service lands, and be consistent with the transportation goals of adjacent federal, State and local jurisdictions to the extent feasible. Ultimately, the regional travel and transportation network goal must function as an effective whole. This is difficult to address in an area that includes such diverse transportation goals, needs and outcomes, and each of the alternatives is proposing a different approach for public lands to get us to this regional network.

Under all the alternatives, including No Action, cumulative impacts on regional motorized access are significant. The public lands network forms the basis of the regional network off of main highways in the entire planning area except the southwestern and Wonder Valley portions which contain few public lands. The public land network serves as the glue that connects resources, private land owners, jurisdictions, agencies, commercial users, recreational users, through travelers and management strategies in most of the WEMO Planning Area. In moving to a discreet network with specific connections and limitations of access, the region is shaping access, and also development and recreational use patterns in both specific and strategic ways that are outlined under each alternative.

4.15 Impact Summary

Table 4.15-1 presents a comparison of the direct, indirect, and cumulative impacts associated with the WMRNP alternatives.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Air Quality	The magnitude of air emissions is the same for all alternatives. The No Action alternative over the long term, shows a substantial reduction in areas that would be susceptible to fugitive dust emissions. Route closures under the No Action Alternative total 9,594 miles, resulting in a reduction in fugitive dust emissions and beneficial impact due to re-vegetation and rehabilitation of disturbed soil areas. Mileage of routes near sensitive receptors and residences is only slightly more than in Alternative 2, and grazing impacts do not appreciably differ.	The magnitude of air emissions is the same for all alternatives. Alternative 2 over the long term, shows a substantial reduction in areas that would be susceptible to fugitive dust emissions, modestly greater than No Action. Route closures under Alternative 2 total 10,600 miles, resulting in the highest reduction in fugitive dust emissions among the alternatives. Alternative 2 has the lowest mileage of routes near sensitive receptors and residences, and grazing impacts do not appreciably differ.	The magnitude of air emissions is the same for all alternatives. Alternative 3 over the long term, shows a moderate reduction in areas that would be susceptible to fugitive dust emissions, which would be less than the other alternatives. Route closures under Alternative 3 total 4,404 miles, resulting in the lowest reduction in fugitive dust emissions among the alternatives. Alternative 3 has the highest mileage of routes near sensitive receptors and residences, and grazing impacts do not appreciably differ.	The magnitude of air emissions is the same for all alternatives. Alternative 4 over the long term, shows a substantial reduction in areas that would be susceptible to fugitive dust emissions, which would be less than No Action and Alternative 2 but greater than Alternative 3. Route closures under Alternative 4 total 9,076 miles, resulting in a reduction in fugitive dust emissions which is roughly similar to the No Action Alternative. Mileage of routes near sensitive receptors and residences is approximately the same as Alternative 1, and grazing impacts do not appreciably differ.
Climate Change	None of the alternatives would lead to a change in the motorized vehicle use or miles traveled in the planning area, and therefore none of the alternatives would result in any increase or decrease in direct or indirect GHG emissions from motorized vehicles or livestock grazing.	None of the alternatives would lead to a change in the motorized vehicle use or miles traveled in the planning area, and therefore none of the alternatives would result in any increase or decrease in direct or indirect GHG emissions from motorized vehicles or livestock grazing.	None of the alternatives would lead to a change in the motorized vehicle use or miles traveled in the planning area, and therefore none of the alternatives would result in any increase or decrease in direct or indirect GHG emissions from motorized vehicles or livestock grazing.	None of the alternatives would lead to a change in the motorized vehicle use or miles traveled in the planning area, and therefore none of the alternatives would result in any increase or decrease in direct or indirect GHG emissions from motorized vehicles or livestock grazing.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Geology, Soil, and Water Resources	The mileage of routes near desert washes and riparian areas in Alternative 1 is slightly higher than in Alternative 2. Soil and riparian impacts would decrease as a result of livestock grazing measures adopted in the 2006 WEMO Plan. The magnitude of erosion and compaction impacts would be higher for No Action than Alternative 2, and would be higher than under other alternatives if future grazing is authorized in vacant allotments under the 2006 WEMO Plan. Riparian impacts do not substantially vary between alternatives since most natural water sources used by livestock are excluded by fencing.	The route network under Alternative 2 would have the lowest mileage of motorized routes in close proximity to washes, riparian areas, springs, and erosion-prone areas. Therefore, it would have the lowest magnitude of direct, adverse impacts to geology, soil, and water resources, and the lowest contribution to cumulative impacts. The magnitude of erosion and compaction impacts would be lower for Alternative 2 than for all other alternatives. Riparian impacts are the same as No Action.	The route network under Alternative 3 would have the highest mileage of motorized routes in close proximity to washes, riparian areas, springs, and erosion-prone areas. Therefore, it would have the largest magnitude of direct, adverse impacts to geology, soil, and water resources, and the largest contribution to cumulative impacts. The magnitude of erosion and compaction impacts could be lower for Alternative 3 than for No Action, over the long term (if future grazing is authorized under No Action), and would be higher than Alternative 2. Riparian impacts are the same as No Action.	The mileage of routes near desert washes and riparian areas in Alternative 4 is approximately the same as Alternative 1. The magnitude of erosion and compaction impacts could be lower for Alternative 4 than for No Action, over the long term (if future grazing is authorized), and would be higher than Alternative 2. Riparian impacts are the same as No Action.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Vegetation	The mileage of routes in close proximity to sensitive vegetation communities, special status plants, and UPAs in Alternative 1 is slightly higher than in Alternative 2. Grazing impacts would be higher than under Alternative 2, even with measures adopted in the 2006 WEMO Plan, because more forage in sensitive species habitat would potentially be available for livestock grazing. Grazing impacts would not substantially vary between other Alternatives, in the short-term, and would be higher than under other alternatives if future grazing is authorized in vacant allotments under the 2006 WEMO Plan.	The route network under Alternative 2 would have the lowest mileage of motorized routes in close proximity to identified vegetation resources. It would also have the most protective minimization and mitigation measures applied to use of those routes, and the most protective goals and objectives to be used in evaluating future routes. Therefore, it would have the lowest magnitude of direct, adverse impacts to vegetation, and the lowest contribution to adverse cumulative impacts. Grazing impacts would be lower under this alternative than other Alternatives because forage in sensitive species habitat would immediately become unavailable for livestock grazing.	The route network under Alternative 3 would have the highest mileage of motorized routes in close proximity to identified vegetation resources. It would also have the least protective minimization and mitigation measures applied to use of those routes, and the least protective goals and objectives to be used in evaluating future routes. Therefore, it would have the largest magnitude of direct, adverse impacts to vegetation resources, and the largest contribution to adverse cumulative impacts. Grazing impacts are more than Alternative 2 and the same as No Action in the short term, but may be lower over the longer term.	The mileage of routes in close proximity to sensitive vegetation communities, special status plants, and UPAs in Alternative 4 is approximately the same as in Alternative 1. Grazing impacts are more than Alternative 2 and the same as Alternative 3.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Wildlife	The mileage of routes in close proximity to special status wildlife areas in Alternative 1 is slightly higher than in Alternative 2. Grazing impacts to wildlife are the same as impacts for vegetation; they would be higher under No Action than Alternative 2, and, over the long-term higher under No Action than under Alternative 3 or 4 impacts.	The route network under Alternative 2 would have the lowest mileage of motorized routes in close proximity to identified wildlife areas. It would also have the most protective minimization and mitigation measures applied to use of those routes, and the most protective goals and objectives to be used in evaluating future routes. Therefore, it would have the lowest magnitude of direct, adverse impacts to wildlife, and the lowest contribution to adverse cumulative impacts. Grazing impacts to wildlife are the same as impacts for vegetation; they would be lower under Alternative 2 than the other alternatives.	The route network under Alternative 3 would have the highest mileage of motorized routes in close proximity to identified wildlife areas. It would also have the least protective minimization and mitigation measures applied to use of those routes, and the least protective goals and objectives to be used in evaluating future routes. Therefore, it would have the largest magnitude of direct, adverse impacts to wildlife resources, and the largest contribution to adverse cumulative impacts. Grazing impacts to wildlife are the same as impacts for vegetation; Alternative 3 impacts would be lower than under No Action and higher than under Alternative 2.	The mileage of routes in close proximity to special status wildlife areas in Alternative 4 is slightly higher than in Alternative 1. Grazing impacts to wildlife are the same as impacts for vegetation; Alternative 4 impacts would be lower than under No Action and higher than under Alternative 2.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Socioeconomics	The mileage of routes available to support recreation and authorized users in Alternative 1 is slightly higher than in Alternative 2. Grazing impacts from the No Action alternative have been adverse to specific lessees, particularly in the sheep grazing community. Impacts would not substantially vary between No Action and Alternatives 3 or 4, but would be lower than under Alternative 2.	The route network under Alternative 2 would have the lowest mileage of motorized routes available to support recreation and authorized users of BLM lands. Although access for these users would still be available, this alternative would increase the density of recreational use, possibly having a slight adverse impact on recreation-focused businesses. Access for authorized users would also be maintained, but it would require a greater length of travel for some users, again having a slight adverse impact. Impacts under Alternative 2 are higher than under the other Alternatives because it would result in an additional loss to individual lessees and the local tax base.	The route network under Alternative 3 would have the largest mileage of motorized routes available to support recreation and authorized users of BLM lands. The increase in the mileage of motorized routes would be a beneficial impact to recreation-focused businesses and other authorized users, as compared to the No Action Alternative. Impacts are the same as No Action.	The mileage of routes available to support recreation and authorized users in Alternative 4 is slightly higher than in Alternative 1. Impacts are the same as No Action.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Recreation	The mileage of routes available to support recreation in Alternative 1 is slightly higher than in Alternative 2. There are no substantial grazing impacts under any of the alternatives.	The route network under Alternative 2 would have the lowest mileage of motorized routes available to support recreation. Although access for these users would still be available, this alternative would increase the density of recreational use in areas that remain open, thus having an adverse impact on the recreation experience.	The route network under Alternative 3 would have the largest mileage of motorized routes available to support recreation. The increase in the mileage of motorized routes would allow recreational users to be more dispersed, increasing their recreational experience and serving as a beneficial impact as compared to the No Action Alternative.	The mileage of routes available to support recreation in Alternative 4 is slightly higher than in Alternative 1.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Livestock Grazing	The mileage of routes available to support authorized users in Alternative 1 is slightly higher than in Alternative 2. Livestock grazing would continue on 30 active allotments under the terms and conditions contained in the Final Grazing Decisions for active allotments in the West Mojave Planning Area. Grazing would be evaluated on a case-by-case basis on 13 inactive allotments when new applications are received.	The route network under Alternative 2 would have the lowest mileage of motorized routes available to support the operations of grazing permittees and lessees. Although access for these users would still be available, this alternative may increase the length of routes those operators need to travel to support their operations, thus having an adverse impact on grazing operations. This impact would contribute incrementally to adverse cumulative impacts to grazing due to resource protections and other authorized uses. Livestock grazing would be discontinued on 3 active grazing allotments in portions within DWMAs and CHUs, and would unavailable on 2 inactive, vacant allotments and a small portion of a 3rd inactive, vacant allotment within DMWAs and CHUs within the West Mojave Planning Area.	The route network under Alternative 3 would have the largest mileage of motorized routes available to support the operations of grazing permittees and lessees. By increasing the mileage of motorized routes within grazing allotments, this alternative would have a beneficial impact on the operators of those allotments. Overall impacts to the allotments due to other factors, such as resource protections and other authorized projects, would continue to have an adverse cumulative impact to grazing.	The mileage of routes available to support grazing in Alternative 4 is slightly higher than in Alternative 1. Livestock grazing would be unavailable on 2 currently inactive, vacant grazing allotments and and a small portion of a 3rd inactive, vacant allotment within DMWAs and CHUs, as well as the DWMA and CHU portions of those that become inactive and vacant in the future within the West Mojave Planning Area.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Energy Production, Utility Corridors, and Other Land Uses	The mileage of the existing authorized or permitted routes are the same in all alternatives. There are no substantial grazing impacts under any of the alternatives.	The route network under Alternative 2 would have the lowest mileage of motorized routes available to support access for any new authorized users for energy production, utility corridors, mining, communications sites, and other facilities. Although access for these users would still be available, this alternative may increase the length of routes those users need to travel to support their new operations. This impact would contribute, incrementally, to adverse cumulative impacts to these land uses due to resource protections and other authorized uses.	The route network under Alternative 3 would have the largest mileage of motorized routes available to support access for new authorized users for energy production, utility corridors, mining, communications sites, and other facilities. By increasing the mileage of motorized routes, this alternative would have a beneficial impact on the operators of those new facilities. Overall impacts to these operations due to other factors, such as resource protections, would continue to have an adverse cumulative impact to other land uses.	The mileage of routes available to support authorized users in Alternative 4 is slightly higher than in Alternative 1.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Cultural Resources	The mileage of routes in close proximity to known cultural resources in Alternative 1 is slightly higher than in Alternative 2. Grazing impacts would be the same as Alternatives 3 and 4 and somewhat higher than under Alternative 2 due to the modest potential for additional damage of cultural resources by livestock on the three actively grazed allotments in DWMAs and CHUs.	The route network under Alternative 2 would have the lowest mileage of motorized routes in close proximity to identified cultural resources. It would also have the most protective minimization and mitigation measures applied to use of those routes, and the most protective goals and objectives to be used in evaluating future routes. Therefore, it would have the lowest magnitude of direct, adverse impacts to cultural resources, and the lowest contribution to cumulative impacts. Grazing impacts would be lower under Alternative 2 than under the No Action and other alternatives because any potential for additional damage of cultural resources by livestock on the three currently grazed allotments in DWMAs and CHUs would be eliminated.	The route network under Alternative 3 would have the highest mileage of motorized routes in close proximity to identified cultural resources. It would also have the least protective minimization and mitigation measures applied to use of those routes, and the least protective goals and objectives to be used in evaluating future routes. Therefore, it would have the largest magnitude of direct, adverse impacts to cultural resources, and the largest contribution to cumulative impacts. Grazing impacts are the same as the No Action alternative.	The mileage of routes in close proximity to known cultural resources in Alternative 4 is slightly higher than in Alternative 1. Grazing impacts are the same as the No Action alternative.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Visual Resources	The mileage of motorized routes in the most sensitive VRI classes (Class I and II) is slightly higher than in Alternative 2, slightly lower than Alternative 4, but much lower than Alternative 3. There are no substantial grazing impacts under any of the alternatives.	The mileage of motorized routes in the most sensitive VRI classes (Class I and II) is lowest in Alternative 2. Although remaining motorized routes would continue to have an adverse impact on the visual character of the desert, closure of routes would lead to a beneficial impact by allowing routes to re-vegetate and rehabilitate. The route network under Alternative 2 would have the largest mileage of closed routes, and would therefore have a beneficial impact on visual resources, as compared to the No Action Alternative.	The mileage of motorized routes in the most sensitive VRI classes (Class I and II) is highest in Alternative 3. The route network under Alternative 3 would have the lowest mileage of closed routes, and would therefore have an adverse impact on visual resources, as compared to the No Action Alternative.	The mileage of motorized routes in the most sensitive VRI classes (Class I and II) is slightly higher than in Alternatives 1 and 2, but much lower than Alternative 3.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Special Designations	The mileage of motorized routes in ACECs, DWMA, wilderness, WSAs, and LWCs is slightly higher than in Alternative 2, slightly lower than Alternative 4, but much lower than Alternative 3. Grazing impacts would be higher than under Alternative 2, even with measures adopted in the 2006 WEMO Plan, because more specially designated areas would potentially be available for livestock grazing. Grazing impacts would not substantially vary between other Alternatives in the short-term, and would be higher under No Action than under the other alternatives, which eliminate the potential for future grazing in additional special areas.	The mileage of motorized routes in ACECs, DWMA, wilderness, WSAs, and LWCs is lowest in Alternative 2. This alternative would also have the most protective minimization and mitigation measures applied to use of those routes, and the most protective goals and objectives to be used in evaluating future routes. Therefore, it would have the lowest magnitude of direct, adverse impacts to special designation areas, and the lowest contribution to cumulative impacts. Grazing impacts would be lower under this alternative than other Alternatives because ACECs that are DWMAs and wilderness would immediately become unavailable for livestock grazing or damage.	The mileage of motorized routes in ACECs, DWMA, wilderness, WSAs, and LWCs is highest in Alternative 3. This alternative would also have the least protective minimization and mitigation measures applied to use of those routes, and the least protective goals and objectives to be used in evaluating future routes. Therefore, it would have the largest magnitude of direct, adverse impacts to special designation areas, and the largest contribution to cumulative impacts. Grazing impacts are more than Alternative 2 and the same as No Action in the short term, but lower over the longer term.	The mileage of motorized routes in ACECs, DWMA, wilderness, WSAs, and LWCs is slightly higher than in Alternatives 1 and 2, but much lower than Alternative 3. Grazing impacts are the same as Alternative 3.
Noise	The mileage of routes near sensitive receptors and residences is only slightly more than in Alternative 2, and much less than in Alternative 3. There are no substantial grazing impacts or differences among the alternatives.	The route network under Alternative 2 would have the lowest mileage of motorized routes within close proximity to sensitive human receptors, residences, and wildlife receptors. Therefore, it would have the lowest magnitude of direct, adverse impacts resulting from noise, and the lowest contribution to cumulative impacts.	The route network under Alternative 3 would have the largest mileage of motorized routes within close proximity to sensitive human receptors, residences, and wildlife receptors. Therefore, it would have the largest magnitude of direct, adverse impacts resulting from noise, and the largest contribution to cumulative impacts.	The mileage of routes near sensitive receptors and residences is only approximately the same as in Alternative 1.

Table 4.15-1. Impact Comparison

Resource	No Action Alternative	Alternative 2	Alternative 3	Alternative 4
Travel and Transportation Management	The route network under all alternatives has been designed to ensure connectivity with route networks in adjacent jurisdictions, and to ensure access to public land holdings and authorized users. The No Action Alternative would maintain the current level of connections and access, and would therefore have no impact on travel and transportation management. There are no substantial grazing impacts to the alternatives. There would continue to be limited routes required under No Action and Alternatives 3 and 4 that would no longer be needed under Alternative 2, but they do not substantively affect the overall travel network.	Alternative 2 has been designed to maintain connections with adjacent jurisdictions and ensure access to private land and authorized users. However, by closure of some unauthorized routes to increase resource protections, this alternative may increase the length of routes that some users may travel to access these areas. As a result, this alternative would have a slight adverse, direct impact to travel and transportation management. There are no substantial grazing impacts to the TTM alternatives. Miles of limited routes may eventually be slightly lower under Alternative 2 than the other alternatives if routes are not needed for other purposes.	Alternative 3 would result in the widest network of motorized routes, maximizing connections to adjacent jurisdictions and access to private land and authorized uses. As a result, this alternative would have a direct, beneficial impact to travel and transportation management. There are no substantial grazing impacts to the TTM alternatives.	Like all alternatives, Alternative 4 has been designed to ensure connectivity with route networks in adjacent jurisdictions, and to ensure access to public land holdings and authorized users. However, this alternative has been designed to incorporate specific comments regarding access to specific locations and users. As a result, Alternative 4 would be the most beneficial to travel and transportation management. There are no substantial grazing impacts to the TTM alternatives.

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CHAPTER FIVE
STATUTORY SECTIONS

Chapter Five discusses the following topics that are required to be addressed by environmental impact statements by federal and/or California statutes, regulations, or policy:

- Relationship Between Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity
- Irreversible and Irretrievable Commitment of Resources
- Growth-Inducing Effects of the Proposed Action
- Public Participation

5.1 Relationship Between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

In the short term, the project alternatives allow dispersed commercial and recreational uses to be made of desert lands, including off highway vehicle recreation, mining, livestock grazing, filming and other uses. Closure of off highway vehicle routes that do not contribute to the network goals, closure and limitation of those routes that affect sensitive resources, minimization of routes with regional network-wide and location-specific measures, in the long term would enhance habitat quality and maintain landscapes and watershed condition, including, soils and water quality. It would also minimize the loss of cultural sites, preserving their information and heritage values.

Transferring impacts from the most sensitive biological areas to less sensitive biological areas further contributes to landscape, habitat and watershed enhancement in DWMA and other sensitive areas over the long-term as well; however, long-term productivity closer to urban centers may continue to deteriorate as more use is directed to these areas, including the loss of cultural sites, semi-rural character, and intact habitat. More remote areas that are less sensitive may also experience some level of deterioration of productivity over the long-term. Working closely with local jurisdictions to coordinate strategies on outreach, education, key closures and limitation of routes to types of use that are less impacting, as well as minimization of routes with regional network-wide and location-specific measures, in the long term would minimize deterioration of habitat quality, landscapes, and watershed condition.

Long-term productivity of landscape, watershed and biological resources, as well as cultural resources in sensitive areas, will be enhanced by continuing implementation of other actions in the 2006 WEMO Plan, and if approved, the DRECP. Long-term productivity will also be enhanced by actions taken in conjunction with ongoing cultural surveys and response actions throughout the planning area. The short-term uses associated with project alternatives, with appropriate implementation strategies, are consistent with the goals of long-term productivity as outlined in these two Plans.

Appropriate access to some sites visited by the public would be maintained, thus minimizing losses of recreation and commercial access in other locations and maintaining the long-term recreational potential of the landscape. This would be accomplished by the design of a network

that provided appropriate access in a manner that avoided sensitive resource sites, limiting how the public uses routes near sensitive sites that remain accessible, directing use away from specific areas with significant habitat loss or watershed damage, and providing specific strategies in areas that have evidence of proliferation which are not closed. Access would continue to be provided for a variety of activities, including equestrian staging areas, recreational touring, motorcycling, hiking, rockhounding, mineral exploration, and other recreational uses. Commercial uses would continue to be provided appropriate access, and to the extent feasible, would generally be directed to the approved network to minimize impacts to long-term productivity.

5.2 Irreversible and Irretrievable Commitment of Resources

Designation of conservation areas and closure of routes within those areas would commit recreation opportunity resources to ecosystem conservation for the duration of the term of the West Mojave Plan and may result in long-term impacts to cultural resources as a result of changing use patterns on the route network. These impacts are not considered irreversible or irretrievable because changes may be made via plan amendment or through adaptive management.

Resource impacts associated with motorized vehicle use can be irreversible, or can take such a long period of time to be reversed that they are, in the timeframe of the WEMO Plan, effectively irreversible. In some cases, active re-vegetation efforts on closed routes can be effective in reducing the time needed for recovery. However, re-vegetation in desert environments is a slow process, and recovery of some resources, such as biological soil crusts, are expected to be irreversible long beyond the timeframe of the WEMO Plan.

The impacts of motor vehicle use on cultural resources also can be irreversible and irretrievable as well. In some cases data recovery may be possible. A decision to mitigate impacts to cultural resources by data recovery, instead of avoidance, constitutes a residual impact to a site. Sites are rarely, if ever, completely excavated. Mitigation by data recovery results in a steady loss of archaeological sites, and reduces opportunities for interpretation in their natural context. Data recovery may also negatively impact Native American values that cannot be mitigated.

Future undertakings to implement route designations that involve ground disturbing activities would require site-specific resources and cultural analysis that may include surveys, recording of historic and prehistoric sites, consultations, and determinations of eligibility of sites to the National Register of Historic Places. Potential impacts to Native American values would be analyzed. Such ground disturbing activities may also be subject to ESA Consultation with USFWS. Mitigation measures would be identified and implemented if necessary, including avoidance, where appropriate.

5.3 Growth-Inducing Effects

Population growth in the West Mojave is projected to range between 1.59% and 2.21% per year for the 30-year term of the West Mojave Plan. Based on previous growth figures and associated use estimates, population growth and economic activity are primary drivers of each other. Major access to areas also helps drive growth. However, the off-highway access network is not a major driver of growth. It is rather responding to the growth by serving the recreational and

commercial access needs brought by the increasing population needing commercial infrastructure and with leisure time.

One exception could be an enhancement of opportunities for the growth of the tourism industry on public lands. Establishment of a viable route network, publication of the opportunities it offers, and implementation of a desert user education program could increase use of certain areas of public lands near recreation areas of particular interest to visitors. This could have a spillover effect on nearby desert communities, which would be well positioned to provide services, information and supplies to desert users.

5.4 Public Participation

Prior to the start of the scoping period, the BLM mailed 51 Cooperating Agency invitation letters to federal, state, and local agencies identified as having special expertise or jurisdiction by law applicable to the WEMO Project. The letters notified potential Cooperating Agencies of the WEMO Project, provided an overview of the WMRNP, invited participation as a Cooperating Agency, and provided contact information to submit questions.

The BLM also mailed 16 Tribal consultation letters to potentially affected Tribes formally initiating government-to-government consultation regarding the WEMO Project. The Tribal consultation letters provided an overview of the WEMO Project; requested consultation and invited input; and provided contact information to submit any questions, concerns, or comments on the WEMO Project.

The DAC is a citizen-based Resource Advisory Council that provides recommendations on the management of public lands in the BLM's California Desert District. The DAC operates under a Charter established under Section 309 and Section 601 (g)(1) of the FLPMA, as amended (43 U.S. Code 1739); and all other provisions of the law. In December 2011, in response to the WEMO Project, the DAC established the WEMO Route Network Project Subgroup (WRNPS), which provides input regarding route-specific and network issues pertinent to the WEMO planning area for BLM to consider. The WRNPS is composed of members representing industry, recreation, conservation and the public at large and holds regularly scheduled meetings that are open to the public. The WRNPS has met more than a dozen times, held additional public outreach sessions, and prepared two reports for the District Manager identifying issues and providing recommendations and rationales for area-wide strategies and route-specific designations in the planning area.

The planning process was initiated by a Notice of Intent (NOI) to prepare a Supplemental Environmental Impact Statement and Proposed Plan Amendment to the 2006 WEMO Plan that was published in the Federal Register on September 13, 2011, and clarified on May 2, 2013. The NOI served as notification of the intent to prepare an EIS as required in 40 CFR 1501.7, as well as of potential amendments to the CDCA Plan, and requested comments on relevant issues, National Historic Preservation Act (NHPA) (16 U.S.C. 470(f) concerns, and initial planning criteria for the plan amendment.

The NOI indicated that the Proposed Plan Amendment and SEIS would consider the following:

- Amending the Motorized-Vehicle Access (MVA) Element of the CDCA Plan to modify the language regarding the process for designating routes in the West Mojave Planning Area;

- Reconsider other MVA Element land-use-planning level guidance and minimization strategies for the West Mojave Planning Area;
- Revisit the route designation process for the West Mojave Planning Area;
- Clarify the West Mojave Planning Area baseline for route designation and analysis;
- Establish a route network in the Planning Area consistent with current guidance and new information;
- Adopt travel management areas (TMA) to facilitate implementation of the West Mojave route network;
- Provide or modify network-wide and TMA-specific activity-plan level minimization, mitigation, and other implementation strategies for the West Mojave Planning Area; and
- Respond to specific issues related to the US District Court WEMO Remand Remedy Order issued in 2011.

Following the NOI, BLM held two overview public scoping meetings on September 27 and 29, 2011, in Ridgecrest and Barstow, California. Appendix A presents a summary of the scoping process, and the comments that were received during the process. As part of the scoping process, the BLM hosted scoping meetings and public workshops for the public and other interested parties to learn about and submit comments on the WMRNP. The BLM advertised the scoping meetings using a variety of outreach materials including the Project website and news releases. The outreach materials provided an overview of the proposed project; provided meeting locations, dates, and times; explained the purpose of the scoping meetings; identified methods for making comments; and provided contact information for questions regarding the WEMO Project. All materials provided an e-mail address for submitting comments (cawemopa@blm.gov) and a link to the Project website (http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html) which contained a comment form and additional project background information.

The BLM held 10 public scoping meetings to initiate the BLM's process for reconsidering motorized vehicle route designations in the WEMO Project planning area. The BLM held two overview open house public meetings September 27 and 29, 2011, in Ridgecrest and Barstow, California, and based on scoping comments and feedback from those meetings, followed with eight public travel designation workshops, also held in Ridgecrest and Barstow, in January and February 2012. A total of 299 people, not including BLM staff, attended the scoping meetings and workshops. Prior to the meetings, the BLM posted WEMO current maps and additional project information to the Project website for public review. Table 2 of the Scoping Report (Appendix A) provides the locations, dates, times, and number of attendees at each scoping meeting. On May 2, 2013 BLM published a clarified NOI to indicate the planning-level vs non-planning level decisions, and to clarify that the plan amendment would be an EIS-level amendment. Three additional public workshops were held in January 2014, in Barstow, Bishop, and Ridgecrest, which targeted tribal communities.

CHAPTER SIX
CONSULTATION

6.1 Consultation

Federal Endangered Species Act (FESA)

The USFWS has jurisdiction to protect threatened and endangered species under the federal Endangered Species Act (ESA) [16 U.S.C Section 1531 et. seq.]. Formal consultation with the USFWS under Section 7 of the ESA is required for any federal action that may adversely affect a federally-listed species. BLM may re-initiate consultation on the 2006 BO based on changes proposed in this SEIS and such consultation shall be completed prior to the signing of any Record of Decision associated with the proposed changes.

National Historic Preservation Act (NHPA)

The National Historic Preservation Act (NHPA) (16 USC 470) requires Federal agencies with jurisdiction over a proposed Federal project to take into account the effect of the undertaking on cultural resources listed or eligible for listing on the National Register of Historic Places, and requires that the agencies afford the State Historic Preservation Office (SHPO), any affected Indian tribe, and the Advisory Council on Historic Preservation (ACHP) with an opportunity to comment on the undertaking. In addition to conducting Section 106 consultation in the development of the WEMO specific Programmatic Agreement, the BLM is utilizing and coordinating the NEPA commenting process to partially satisfy the public involvement requirements for Section 106 of the NHPA, as provided for in 36 CFR 800.2(d)(3).

BLM initiated the Section 106 consultation process by a letter to the California Office of Historic Preservation on February 16, 2012. BLM and the SHPO have cooperatively developed initial data acquisition and analysis needs, which have been acquired by BLM in support of the current planning effort. The ACHP was formally invited to participate in consultation by letter dated June 2, 2014 and has elected to participate by letter response dated June 24, 2014.

In coordination with the California SHPO and the ACHP, the BLM is complying with Section 106 through the negotiation of a WEMO specific Programmatic Agreement. The development of a Programmatic Agreement following the regulations at 36 C.F.R. §800.14 (b) is consistent with BLM guidance (IM-2012-067) for cultural resource considerations in off-highway vehicle designations and travel management.

To date, BLM has completed the records review for the Supplemental EIS, updated GIS information layers, and completed monitoring as outlined in the 2012 agreement with SHPO. A GIS-based sensitivity analysis and a more concentrated predictive modelling program are under development and will be utilized to identify inventory sites and evaluate cultural survey results to prioritize and direct inventory needs as part of the development of the Programmatic Agreement. This model will assist the BLM in designing inventory strategies where cultural resources are most likely to occur, so that additional minimization and mitigation measures can be applied where travel management is causing adverse effects to cultural properties.

Initial discussion and meetings have been held with SHPO to discuss contents of the Programmatic Agreement. Additional steps in the development of the agreement will be determined in consultation with SHPO, ACHP, and other consulting parties in upcoming discussions. To comply with Section 106, the WEMO Programmatic Agreement must be executed by the BLM, SHPO, ACHP and other invited signatories no later than March 31, 2015, prior to the Record of Decision.

The travel management decisions ordered for completion in May, 2015, will include the designation of off-highway routes in the West Mojave Desert and portions of the Great Basin Transition Zone. Pursuant to 36 C.F.R. §800.14(b)(1)(i) and (ii), the effects on historic properties are likely to be similar and repetitive, cross multiple regions, and cannot be fully determined prior to the approval of the undertaking. As allowed for under 36 CFR §800.4 (b)(2), the agreement is expected to include procedures for phasing the inventory and implementation plan for the identification of historic properties after the Record of Decision. The Programmatic Agreement will also specify programmatic procedures for how the BLM intends to address effects to historic properties.

Tribal Consultation

Tribal consultation is being conducted in accordance with policy, and tribal concerns, if any, are being given due consideration in evaluation of Plan amendment alternatives and development of the Programmatic Agreement. Consultation was initiated in 2011 with Federally and non-Federally recognized tribal groups. Five tribal outreach open house meetings were held in early 2014 to hear additional input from the tribes, in advance of the SHPO meeting to initiate development of the Programmatic Agreement. Consultation is ongoing and will continue throughout the development and implementation of the West Mojave Route Network Project and associated Programmatic Agreement.

6.2 List of Preparers

Though individuals have primary responsibility for preparing sections of the Proposed Programmatic Agreement and the EIS (Table 6.2-1), the document is an interdisciplinary team effort. In addition, internal review of the document occurs throughout preparation. Specialists at the BLM's Field Office, State Office, and Washington Office reviewed the analysis and supplied information, as well as provided document preparation oversight. Contributions by individual preparers may be subject to revision by other BLM specialists and by management during internal review.

Table 6.2-1. List of Preparers

Name	Primary Responsibility
BLM – Barstow Field Office	
Edy Seehafer	Project Manager
Anthony Chavez	Soil/Water/Air/Range
Jim Shearer	Cultural Resources
Birgit Hoover	Lands & Realty
Chris Otahal	Biological Resources
Shelly Jackson	Field Documentation (GIS)
BLM – Ridgecrest Field Office	
Craig Beck	Assistant Project Manager, Recreation
Glenn Harris	Soil/Water/Air
Jeff Gicklhorn	Range/Biological Resources
Ashley Blythe	Cultural Resources
Carrie Woods	Biological Resources
Marty Dickes	Wilderness/Recreation
BLM – California Desert District Office	
Jeff Childers	Project Manager
Larry LePre	Biological Resources
Peg Margosian	Support Staff (GIS)
BLM – California State Office	
James Weigand	Environmental Justice, Soils and Geology
Jack Hamby	Range Management
Elizabeth Meyer-Shields	Planning
AECOM Environment	
Robert Dover	Project Manager, Water Resources
Erika Grace	Project Coordinator
Annie Ferguson	Recreation, Travel, Visual
Melanie Martin	Planning
Brent Read	GIS Analysis
Bridget Ronayne	Access Database Development
Jim Harvey	Access Database Development
Patti Lorenz	Biological Resources
Sean Wazlaw	Air, Traffic, and Noise
Steve Graber	Socioeconomics and Environmental Justice
Rebecca Apple	Cultural Resources
Tanya Wayhoff	Cultural Resources
Regina Greer	Formatting, Production

CHAPTER SEVEN
ACRONYMS AND GLOSSARY

7.1 List of Acronyms

Acronyms used throughout this document have been compiled and are provided in alphabetical order below in Table 7.1-1.

Table 7.1-1. List of Acronyms

Acronym	Definition
4WD	four-wheel-drive
ACHP	Advisory Council on Historic Preservation
AFB	Air Force Base
ATV	all-terrain vehicle
AUM	animal unit months
AVAQMD	Antelope Valley Portion of LA County Air Quality Management District
ACEC	Area of Critical Environmental Concern
APE	Area of Potential Effects
BMP	Best Management Practices
BA	Biological Assessment
BO	Biological Opinion
BLM	Bureau of Land Management
CBDT	California Backcountry Discovery Trail
CDAWG	California Desert Air Working Group
CDCA	California Desert Conservation Area
CDPA	California Desert Protection Act
CDFW	California Department of Fish and Wildlife
CHP	California Highway Patrol
CHU	Designated Critical Habitat Unit
CNDDB	California Natural Diversity Database
CRHR	California Register of Historical Resources
CO_2	carbon dioxide
CO	carbon monoxide
CDC	Centers for Disease Control and Prevention
cm	centimeter
CFC	chlorofluorocarbon
CWA	Clean Water Act
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CTTM	Comprehensive Travel and Transportation Management
CAPA	Coordinated/ Collaborative Access Planning Area
CEQ	Council on Environmental Quality

Table 7.1-1. List of Acronyms

Acronym	Definition
the Court	United States District Court for the Northern District of California
CH_4	methane
DoD	Department of Defense
DOE	Department of Energy
DRECP	California Desert Renewable Energy Conservation Plan
DTNA	Desert Tortoise Natural Area
DWMA	Desert Wildlife Management Area
DEIS	Draft Environmental Impact Statement
EKAPCD	East Kern Air Pollution Control District
ESA	Endangered Species Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAMS	Facility Asset Management System
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FLPMA	Federal Land Management and Protection Act
GIS	Geographic Information Systems
GPS	global positioning system
GBUAPCD	Great Basin Unified Air Pollution Control District
GBVAB	Great Basin Valley Air Basin
GHG	Greenhouse Gas
GTLF	Ground Transportation Linear Features
HCFC	hydrochlorofluorocarbon
HFC	hydrofluorocarbon
IM	Instruction Memorandums
IMARS	Law Enforcement Reporting System
I-15	Interstate-15
I-40	Interstate-40
JD	jurisdictional determination
kV	kilovolt
L_{dn}	day-night average noise
L_{eq}	equivalent continuous sound level
LUP	Land Use Planning
MCAGCC	Marine Corps Air Ground Combat Center
MW	megawatt
MOU	Memorandum of Understanding
MPH	miles per hour
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
MFTL	Mojave Fringed-toed lizard
MGS	Mohave ground squirrel

Table 7.1-1. List of Acronyms

Acronym	Definition
MVA	Motorized vehicle access
MUC	Multiple Use Class
NAIP	National Agriculture Imagery Program
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHD	National Hydrography Dataset
NLCS	National Landscape Conservation System
NPS	National Park Service
NRHP	National Register of Historic Places
NAWS CL	Naval Air Weapons Station China Lake
NO_2	nitrogen dioxide
NO_x	nitrogen oxide
N_2O	nitrous oxide
NGO	non-governmental organizations
NECO	Northern and Eastern Colorado
NEMO	Northern and Eastern Mojave
NA	Not Applicable
NECO	Northern and Eastern Colorado
NEMO	Northern and Eastern Mojave
NOI	Notice of Intent
OHV	off-highway vehicle
O_3	Ozone
PDSI	Palmer Drought Severity Index
PM	particulate matter
$PM_{2.5}$	fine particulate matter
PM_{10}	respirable particulate matter
PFC	perfluorocarbons
PSD	prevention of significant deterioration
PEIS	Programmatic Environmental Impact Statement
PFC	proper functioning condition
P.L.	Public Law
RHT	Rademacher Hills Trail
ROD	Record of Decision
ROV	recreational off-highway vehicle
RWQCB	Regional Water Quality Control
RCRA	Resource Conservation and Recovery Act
RMP	Resource Management Plan
ROW	right-of-way grant
SBNF	San Bernardino National Forest
SCAQMD	South Coast Air Quality Management District
SCAG	Southern California Association of Governments

Table 7.1-1. List of Acronyms

Acronym	Definition
SDWA	Safe Drinking Water Act
SEIS	Supplemental Environmental Impact Statement
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO2	sulfur dioxide
SO4	sulfate
SRP	Special Recreation Perm
SUV	sport utility vehicle
SWRCB	State Water Resources Control Board
TMA	Travel Management Area
TTM	Travel and Transportation Management
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USFS	United States Forest Service
UPA	Unusual Plant Assemblages
VRI	Visual Resource Inventory
VRM	Visual Resource Management
VOC	volatile organic compounds
WEMO	West Mojave
WEMO Plan	2006 West Mojave Plan Amendment
WMRNP	West Mojave Route Network Project
WSA	Wilderness Study Area

7.2 Glossary

This section provides the definitions of terms used or referred to in this document that cannot be found in a standard dictionary. These terms augment or expand the scope of terms in the 2006 WEMO Plan to address the analysis in this Supplemental EIS.

Adaptive Management: Adaptive management is an integrated method for addressing uncertainty in natural resource management. It also refers to a structured process for learning by doing. Therefore, we are defining adaptive management broadly as a method for examining alternative strategies for meeting measurable goals and objectives, and then, if necessary, adjusting future management actions according to what is learned. An adaptive management strategy may (1) identify the uncertainty and the questions that need to be addressed to resolve the uncertainty; (2) develop alternative strategies and determine which experimental strategies to implement; (3) integrate a monitoring program that is able to detect the necessary information for strategy evaluation; and (4) incorporate feedback loops that link implementation and monitoring to a decision-making process (which may be similar to a dispute- resolution process) that result

in appropriate changes in management. (Adapted from the Final Addendum to the [USFWS] Handbook for Habitat Conservation Planning and Incidental Take Permitting Process.)

Allowable Ground Disturbance: This is a land development threshold (the current threshold for tortoise DWMAs is 1% of the total surface area of those DWMAs, that is, about 15,000 acres).

Area of Critical Environmental Concern: A BLM land use designation. Areas within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards. The identification of a potential ACEC shall not, of itself, change or prevent change of the management or use of public lands. ACECs can be located within any BLM multiple use class, and include areas that are popular recreational destinations or that are used for scientific investigations.

Assets – Term utilized to describe roads, primitive roads, and trails that comprise the transportation system. Also the general term utilized to describe all BLM constructed "Assets" contained within the Facility Asset Management System (FAMS).

Administrative Use: Official use related to management of the public lands and resources by Federal, State, or local government personnel in the performance of their official duties.

Animal Unit Month (AUM): The amount of forage needed to sustain one cow, five sheep, or five goats for a month. A full AUMs fee is charged for each month of grazing by adult animals if the grazing animal (1) is weaned, (2) is 6 months old or older when entering public land, or (3) will become 12 months old during the period of use. For fee purposes, an AUM is the amount of forage used by five weaned or adult sheep or goats or one cow, bull, steer, heifer, horse, or mule. The term AUM is commonly used in three ways: (1) stocking rate as in X acres per AUM, (b) forage allocation as in X AUMs in allotment A, and (3) utilization as in X AUMs consumed from Unit B.

Authorized Use: BLM issues leases, permits, rights-of-ways, and maintenance agreements to authorize certain kinds of development, uses, and/or occupancy of the public lands. Leases and permits are issued for such activities as temporary or permanent commercial facilities (except on mining claims), harvesting native or introduced species, residential occupancy, recreation (e.g., camping, ski resorts), agriculture (crops, apiaries), construction equipment storage, livestock holding or feeding areas not related to a grazing permit, water pipelines and well pumps (for irrigation or other purposes), and advertising displays. Rights-of-ways are issued for such things as roads, pipe lines, aqueducts, and power transmission lines.

Biological Opinion: The Federal Endangered Species Act (FESA) requires federal agencies to consult with the FWS to ensure that the actions they authorize, fund, or carry out will not jeopardize listed species (see below, Section 7 definition). Where the USFWS determines the proposed action will jeopardize the species, it must issue a biological opinion offering reasonable and prudent alternatives identifying measures that, if adopted, could avoid jeopardy to the listed species.

California Desert Conservation Area (CDCA): A region encompassing BLM- administered public lands within the Mojave and Colorado deserts of southern California. Congress designated the California Desert as a Conservation Area in 1976. In making that designation (in the Federal Land Policy and Management Act), Congress made the following findings:

(1) The California desert contains historical, scenic, archaeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources that are uniquely located adjacent to an area of large population;

(2) The California desert environment is a total ecosystem that is extremely fragile, easily scarred, and slowly healed;

(3) The California desert environment and its resources, including certain rare and endangered species of wildlife, plants and fishes, and numerous archaeological and historic sites, are seriously threatened by air pollution, inadequate Federal management authority, and pressures of increased use, particularly recreational use, which are certain to intensify because of the rapidly growing population of southern California [43 USC 1781(a)].

The purpose of the designation was "to provide for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality." (43 USC 1781(b).)

California Desert Conservation Area Plan (CDCA Plan): In 1976, Congress found that:

(1) The use of all California desert resources can and should be provided for in a multiple use and sustained yield management plan to conserve these resources for future generations, and to provide present and future use and enjoyment, particularly outdoor recreation uses, including the use, where appropriate, of off-road recreational vehicles [43 USC 1781(a)].

Congress directed the Secretary of the Interior to "prepare and implement a comprehensive, long-range plan for management, use, development, and protection of the public lands within the California Desert Conservation Area" (43 USC 1781(d)). The CDCA Plan was completed by the BLM and signed by the Secretary of the Interior in 1980. The CDCA Plan, as amended since its original adoption, serves as the BLM's general land use plan for public lands in this region, including all public lands located within the western Mojave Desert.

Closed Area – As identified in 43 CFR 8342.1, an area closed to off-highway vehicle use. Public OHV use in these areas is prohibited. Use of off-highway vehicles in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of the authorized officer.

Closed Route – As identified in the CDCA Plan, a closed route is a route on which access is prohibited by motorized vehicles except: (1) fire, military, emergency or law enforcement vehicles when used for emergency purposes; (2) combat or combat support vehicles when used for national defense purposes; (3) vehicles whose use is expressly authorized by an agency head under a permit, lease, or contract; and (4) vehicles used for official purposes by employees, agents, or designated representatives of the Federal Government or one of its contractors. Use must be consistent with the multiple use guidelines for that area. This term is being supplanted by "Translinear Disturbance," a term from the 2005 TTM guidance.

Comprehensive Transportation and Travel Management (CTTM) - The proactive interdisciplinary planning; on-the-ground management and administration of travel networks (both motorized and non-motorized) to ensure public access, natural resources, and regulatory needs are considered. It consists of inventory, planning, designation, implementation, education,

enforcement, monitoring, easement acquisition, mapping and signing, and other measures necessary to provide access to public lands for a wide variety of uses (including uses for recreational, traditional, casual, agricultural, commercial, educational, and other purposes).

Conserve: To allow natural habitat or species populations to remain in place.

Critical Habitat: FESA defines this as the specific areas within the geographical area occupied by a listed species on which are found those physical or biological features (1) essential to the conservation of the species and (II) which may require special management considerations or protection; and, specific areas outside the geographical area occupied by a listed species upon a determination by FWS that such areas are essential for the conservation of the species.

Designated Roads and Trails: Specific roads and trails identified by the BLM (or other agencies) where some type of motorized vehicle use is appropriate and allowed either seasonally or year-long. (BLM Manual H-1601-1 Land Use Planning Handbook).

Desert Wildlife Management Area (DWMA): administrative area within the recovery unit which is managed such that reserve-level protection is afforded to desert tortoise populations while maintaining and protecting other sensitive species and ecosystem functions; DWMAs are essential to the long-term recovery, viability, and genetic diversity of the species and are implemented to provide for the long-term viability of tortoise populations and the ecosystems upon which they depend.

Endangered Species: A species that is in danger of extinction throughout all, or a significant portion, of its range.

Goals and Objectives: Goals are the broad guiding principles for the transportation and travel management and grazing program strategies, as well as the biological conservation program of the 2006 WEMO Plan. They are the rationale behind the minimization and mitigation strategies that are developed for these programs. If the operating program is relatively complex, the goals are further divided into manageable, and, where appropriate, measurable objectives. Transportation and travel management objectives may apply planning area wide, by TMA, or to specific aspects of travel management. Grazing program objectives likewise may be program wide, by specific allotment, or to specific aspects of allotment management. Biological objectives are the different components needed to achieve the biological goal such as preserving sufficient habitat, managing the habitat to meet certain criteria, or ensuring the persistence of a specific minimum number of individuals. The biological goals and objectives may be either habitat or species based. (Adapted from the Final Addendum to the USFWS Handbook for Habitat Conservation Planning and Incidental Take Permitting Process.)

Habitat: The location where a particular taxon of plant or animal lives and its surroundings, both living and non-living; the term includes the presence of a group of particular environmental conditions surrounding an organism including air, water, soil, mineral elements, moisture, temperature, and topography.

Land Disturbance: Clearing, excavating, grading or other manipulation of the terrain.

Land Disturbing Activity: Any activity that results in the clearing, excavating or other manipulation of the terrain.

Land Tenure Adjustment (LTA) Program: Numerous land exchanges have been taking place within the Western Mojave Land Tenure Adjustment Area, pursuant to a joint BLM and Air

Force project initiated in the late 1980s. These exchanges, facilitated by Air Force funding, are intended to preclude land uses not compatible with the training/testing mission of Edwards AFB, to encourage private land development in appropriate locations, and to provide for more efficient management of public lands. The acquisition of land through LTA project exchanges does not, in and of itself, create a commitment for long-term management or prevent future development.

Lands with Wilderness Characteristics: Lands that have been inventoried and determined by the BLM to contain wilderness characteristics as defined in Section 2(c) of the Wilderness Act.

Limited Area – As identified in 43 CFR 8342.1, an area where vehicular access is limited to designated trails, and may be otherwise restricted at certain times, in certain areas, and/or to certain vehicular use.

Limited Route – Routes that are available for use, and the specific conditions or specific classes of users to which the route is available. These conditions may be of any type but can generally be accommodated within five categories: (1) to all users on designated trails, (2) to a specific subcategory of motorized users or specified numbers of vehicles, types of vehicles, time or season of vehicle use, (3) to permitted or licensed use or to administrative use only; (4) restricted to non-mechanized use, or (5) restricted to non-motorized use. All users are, at a minimum, restricted to the designated trail, except as identified for stopping, parking, and camping.

Linkage: Region connecting two or more conservation areas. Linkages may act as dispersal corridors for wide-ranging species, provide habitat for pollinators, or serve to maintain genetic continuity between major populations of a species. Some linkages, particularly large drainages, serve to connect several different habitats over an elevational gradient.

Maintain: To take routine actions to avoid the diminishing or decline of a species population, habitat, or natural community due to anthropogenic causes.

Maintenance Intensities – Transportation System Assets - BLM Route Maintenance Intensities provide guidance for appropriate "standards of care" to recognized routes within the BLM. Recognized Routes by definition include Roads, Primitive Roads, and Trails carried as Assets within the Bureau of Land Management Facility Asset Management System (FAMS).

Management Prescription: Discrete component of the West Mojave Plan's habitat conservation strategy. A prescription could include take-avoidance measures intended to minimize and mitigate the impacts of a new development, as well as a proactive management program to be undertaken by land management agency (for example, to control raven populations).

Mechanized Travel: Moving by means of mechanical devices that are not powered by a motor or engine, such as a bicycle or landsailer.

Minimize Take: Measures that will be implemented on-site to minimize impacts to the desert tortoise and other special-status species (e.g., fencing, biological monitors, reduced speed limit, education programs, etc.).

Mitigate Take: Measures that will be implemented off-site to compensate for impacts to a special-status species (e.g. compensatory land purchase).

Mohave Ground Squirrel Habitat Conservation Area: An area identified to apply special measures to protect habitat and conserve the MGS and other special-status species occurring in that area.

Monitoring: Monitoring provides information necessary to assess plan compliance and project impacts, and to verify progress toward meeting plan goals and objectives. Monitoring also provides data to evaluate the success of the 2006 WEMO Plan operating program and to make appropriate adjustments to the program. Monitoring is divided into two types. Compliance monitoring is verifying that the terms of the Plan are being carried out. Effects and effectiveness monitoring evaluates the effects of the action and determines whether the effectiveness of the Plan strategies are consistent with the assumptions and predictions made when the plan is developed and approved; in other words, is the 2006 WEMO Plan achieving the goals and objectives as outlined in that plan and supplemented herein for travel management and grazing. (Adapted from the Final Addendum to the [USFWS] Handbook for Habitat Conservation Planning and Incidental Take Permitting Process).

Motorized Travel: Moving by means of vehicles that are propelled by motors or engines such as cars, trucks, OHVs, motorcycles, and motorhomes. Routes designated as motorized are available for all forms of motorized travel unless otherwise limited as indicated by a sub-designation. If a sub-designation is placed upon the route then that route is limited to that form of motorized travel only, such as a motorcycle only route. Routes designated as motorized are also available for non-motorized and non-mechanized travel.

Motorized Vehicle Access Network: A general term referring, collectively, to routes of travel (roads, ways, trails and washes) on BLM-administered public lands designated by that agency as either open for motor vehicle use, or open in a limited matter (e.g. subject to restrictions based upon vehicle numbers or type, time or season of use, permitted or licensed use, or subject to speed limits).

Multiple Use Class: A BLM land use planning designation. On the basis of uses and resource sensitivity, the BLM's CDCA Plan geographically designated nearly all public lands within the CDCA into four multiple-use classes (MUC). These MUC are being supplemented and clarified with many additional classifications such that the other features, such as access management area, bioregion, watershed, travel management area, special recreation management area, development focus area, etc., such that MUC are less emphasized.

Non-mechanized Travel: Moving by foot, horseback, other animal-powered travel, and cross-country skiing; travel not aided by mechanical means. Routes designated as non-mechanized are available for all forms of non-mechanized travel unless otherwise limited as indicated by a sub-designation. If a sub-designation is placed upon the route then that route is limited to that form of travel only such as a hiking only route.

Non-motorized Travel: Moving by foot, stock, or pack animal, or mechanized vehicle such as a bicycle or landsailer. Routes designated as non-motorized are available for all forms of non-motorized travel unless otherwise limited as indicated by a sub-designation. If a sub-designation is placed upon the route then that route is limited to that form of non-motorized travel only, such as a bicycle only route. Routes designated as non-motorized are also available for non-mechanized travel.

Off-Highway Vehicle (off-road vehicle) - Any motorized vehicle capable of, or designated for travel on or immediately over land, water or other natural terrain, excluding: (1) any non-amphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by

the authorized officer, or otherwise officially approved; (4) vehicles in official use; and (5) any combat or combat support vehicle when used for national defense.

Open Area: An area where all types of OHV vehicle use is permitted at all times, anywhere in the area subject to the operating regulations and vehicle standards set forth in 43 CFR 8341 and 8342, and subject to permission of private land owners if applicable. The CDCA Plan has designated OHV Open Areas for (1) those lands specifically designated as open for vehicle travel, and (2) certain sand dunes and dry lakebeds. (from CDCA Plan as amended, 1999 reprint, page 76.)

Open Route: As identified in the CDCA Plan, an open route is a route on which access by motorized vehicles is allowed. Special uses with potential for resource damage or significant conflict with other use may require specific authorization.. Open routes are no longer being designated. All routes are Limited to the designated trail and are therefore considered Limited Routes, consistent with the 2005 TTM guidance.

Primitive Road: A linear route managed for use by four-wheel drive or high clearance vehicles. These routes do not normally meet any BLM road design standards.

Primitive Trail - Roadlike feature on public land in wilderness study areas used by vehicles having four or more wheels, which receives no maintenance to guarantee regular and continuous use.

Protect: To take positive action to avoid harm to a covered species or to conserve its habitat in a natural and undisturbed condition.

Reclamation: Taking such reasonable measures as will prevent unnecessary or undue degradation of the Federal lands, including reshaping land disturbed by operations or activities to an appropriate contour and, where necessary, revegetating disturbed areas so as to provide a diverse vegetative cover and/or disguise previous activities/uses.

Recovery Plan: Plans developed by FWS that recommend a program to provide for the conservation and survival of listed species. These plans include site-specific management actions and recommendations to achieve the conservation and survival of the species; objective and measurable criteria for delisting; and time and cost estimates.

Recovery Unit: Distinct population segments of a listed species. The desert tortoise, for example, is listed as threatened by the Service within those portions of its range north and west of the Colorado River. This area is divided into six recovery units. The western Mojave Desert is one of those recovery units. Recovery is judged in the context of each of these units independently.

Rehabilitation: The site will be returned to a stable form, not necessarily to a condition that existed prior to surface disturbing operations. Land use alternatives may be considered in post operation or activity development plans. A second use may include a use not consistent with uses existing prior to disturbances, that do not substantially enhance the area of disturbance.

Restoration: Return the disturbed area as best able to a condition that existed prior to surface disturbing activities. Elements include revegetation or the ability to revegetate with species native to the area, and may include placement of vegetation in the same locations that existed prior to conduct of operations.

Road: A linear route declared a road by the owner, managed for use by low clearance vehicles having four or more wheels, and maintained for regular and continuous use.

Section 7 (FESA): The subdivision of FESA that describes the responsibilities of Federal agencies in conserving threatened and endangered species. It requires that any action authorized, funded, or carried out by the agency should not be likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of the species habitat. It includes a requirement that agencies consult with FWS if an action will likely affect a listed species that may be present in the area affected by the project. It requires FWS to issue a biological opinion stating how the action will affect the species or its critical habitat and, if jeopardy or adverse habitat modification is found, it suggests reasonable and prudent alternatives.

Special Areas: A land use designation applied by BLM to a variety of areas with unique features, plant communities, or other that support other resources. Special Areas are a tool to highlight areas known to be important for special consideration in the environmental assessment process for any kind of project. The multiple-use class or other federal or BLM guidelines for the class in which the area is located will provide the basic management direction for each Special Area. Where appropriate, activity plans will establish site-specific management directives.

Special Status Species: These include species:

- Listed as threatened or endangered (state and federal)
- Proposed for listing;
- Candidates for listing by the state and/or federal government;
- California species of concern;
- Designated as sensitive by the BLM; and,
- Plants identified by the California Native Plant Society as rare, threatened, endangered, or of limited distribution in California.

Standards and Guidelines: A Standard is an expression of the level of physical and biological condition or degree of function required for healthy, sustainable rangelands. Guidelines for grazing management are the types of grazing management activities and practices determined to be appropriate to ensure that the standards can be met or significant progress can be made toward meeting standards.

Subregion (Vehicle Access): Thirty-six geographic subdivisions covering various portions of public lands within the West Mojave planning area and that provide complete coverage of the planning area. These subdivisions were established for purposes of organizing the development of a network of motorized vehicle access routes on public lands, and to facilitate implementation of the route network. They generally coincide with law enforcement patrol sectors.

Threatened Species: A species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened.

Tortoise Desert Wildlife Management Areas (Tortoise DWMAs): These conservation areas are designed to encompass essential tortoise habitats (particularly critical habitat) and be of sufficient size to ensure the recovery of the tortoise and conservation of other rare, unlisted species so as to prevent future listing.

Trail: A linear route managed for human-powered, stock, or off-highway vehicle forms of transportation or for historical or heritage values. Trails are not generally managed for use by four-wheel drive or high-clearance vehicles.

Transportation Linear Disturbances – Man-made linear features that are not part of the BLM's Transportation System. Linear disturbances may include engineered (planned) as well as unplanned single- and two-track linear features. Even if previously authorized, these features are considered unauthorized, and suitable for removal and rehabilitation.

Transportation Linear Features – The broadest category of physical disturbance (planned and unplanned) on BLM land. Transportation-related linear features include engineered roads and trails, as well as user-defined, non- engineered roads and trails created as a result of the public use of BLM land. May include roads and trails identified for closure or removal as well as those that make up the BLM's defined transportation system.

Transportation System – The sum of the BLM's recognized inventory of linear features (roads, primitive roads, and trails) formally recognized and approved as part of the BLM's transportation system.

Travel Management Areas - Polygons or delineated areas where a rational approach has been taken to classify areas open, closed or limited, and have identified and/or designated a network of roads, trails, ways, and other routes that provide for public access and travel across the planning area. All designated travel routes within travel management areas should have a clearly identified need and purpose as well as clearly defined activity types, modes of travel, and seasons or timeframes for allowable access or other limitations. (BLM Manual H-1601-1 Land Use Planning Handbook).

Utility Corridor: The CDCA Plan designated a regional network of nineteen utility planning corridors. Corridors are from two to five miles wide, and are several to hundreds of miles in length. They apply to electrical transmission towers and cables of 161-kV and above; pipelines with diameters greater than 12 inches, coaxial cables for interstate communications, and major aqueducts or canals for inter-basin transfers of water. Their purpose is to guide detailed planning and siting of utility projects requiring a right of way from the BLM. Location of a project within a corridor does not, without more, confer a right of way or fulfill environmental review requirements; however, projects subject to the corridor requirement are allowed outside of corridors only through an amendment to the CDCA Plan. BLM issues a permit that allows the construction of a new utility in these corridors only after FESA Section 7 consultation with FWS and Section 106 consultation with SHPO. Local distribution facilities may be located outside of designated corridors without a further land-use plan amendment. The CDCA Plan also identified several contingent corridors (routes having some potential for use in the future), which could be brought forward into the plan after successfully completing the Plan Amendment process. (CDCA Plan, pages 93-94.). At least one contingent corridor has already been activated in the WEMO Planning Area.

Voluntary Relinquishment: "the donation" of any valid existing grazing permit or lease within the CDCA. The term donation is interpreted by the BLM to mean "voluntary relinquishment" of the permit or lease to graze on a public land grazing allotment and the preferential position that the permittee or lessee enjoyed, in relation to other applicants, to receive that permit or lease.

West Mojave Amendment Web Page:
http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html

West Mojave 2006 Plan Web Page: http://www.blm.gov/ca/st/en/fo/cdd/wemo.html

Wilderness Area: A unit of the National Wilderness Preservation System. Wilderness areas are designated by Congressional action. It is a natural preserve with outstanding opportunities for solitude and unconfined primitive experience. Wilderness is a place to enjoy where ecological, geological and other features of scientific, scenic, educational and historical value are protected and their character retained. BLM manages wilderness in accordance with the provisions of the Wilderness Act of 1964 and approved wilderness management plans. These plans generally contain actions that:

(1) Maintain an enduring system of high-quality wilderness;

(2) Perpetuate the wilderness resource;

(3) Provide, to the extent consistent with items 1 and 2, opportunities for public use, enjoyment, and understanding of wilderness, and the unique experiences dependent upon a wilderness setting;

(4) Maintain plants and animals indigenous to the area;

(5) Maintain stable watersheds within constraints of the Wilderness Act;

(6) Consider protection needs for populations of threatened or endangered species and their habitats in management of wilderness;

(7) Consider accessibility to all segments of the population (including the handicapped, elderly, and underprivileged) in the management of wilderness;

(8) Consider valid nonconforming resource uses and activities in the management of wilderness so as to have the least possible adverse effect and/or wherever possible a positive effect; and

(9) Provide access to inholdings of private lands and vehicle access required by many areas because of the lack of water and the harsh environment of the Desert. [CDCA Plan as amended, page 50.]

Wilderness Study Area (WSA): Wilderness Study Areas are public lands that Congress has directed remain unimpaired for Wilderness designation until such time as Congress decides whether or not they will become units of the National Wilderness Preservation System. BLM manages its WSAs pursuant to an interim management policy described in the CDCA Plan. Although Congress made a final designation decision with respect to most of the western Mojave Desert's WSAs in 1994, five WSAs remain, all on BLM lands: Avawatz Mountains, Cady Mountains, Great Falls Basin, Soda Mountains and South Avawatz Mountains.

CHAPTER EIGHT
REFERENCES

Chapter 1.0 Introduction

BLM (U.S. Bureau of Land Management). 2012. Travel and Transportation Management Handbook 8342-1.

BLM (U.S. Bureau of Land Management). 2003. Decision Record for the Western Mojave Desert Off Road Vehicle Designation Project.

Chapter 2.0 Alternatives

BLM (U.S. Bureau of Land Management). 2012. Travel and Transportation Management (TTM) Handbook 1626-1.

BLM (U.S. Bureau of Land Management). 2006. West Mojave (WEMO) Plan conservation strategies.

Section 3.1 Analysis of the Management Situation

BLM (U.S. Bureau of Land Management). 2005. Land Use Planning Handbook H-1601-1. March 2005, p.47.

BLM (U.S. Bureau of Land Management). 2005. Western Mojave (WEMO) Plan Final EIS.

Section 3.2 Air Quality

Anderson, J., F. Chung, M. Anderson, L. Brekke, D. Easton, M. Ejeta, R. Peterson, and R. Snyder. 2008. Progress on incorporating climate change into management of California's water resources. Climatic Change 89, Supplement 1: 91-108.

Barrows, C.W. and M. L. Murphy-Mariscal. 2012. Modeling impacts of climate change on Joshua trees at their southern boundary: How scale impacts predictions. Biological Conservation 152:29-36.

Bierbaum, R. M., J. P. Holdren, M. C. MacCracken, R. H. Moss, and P. H. Ravens (eds). 2007. Confronting climate change: avoiding the unmanageable and managing the unavoidable. Report prepared for the United Nations Commission on Sustainable Development. Sigma Xi, Research Triangle Park, North Carolina, USA, and the United Nations Foundation, Washington D.C., USA.

CARB (California Air Resources Board). 2012b. Air Quality Standards and Area Designations. Accessed at <http://www.arb.ca.gov/desig/desig.htm>. January, 2013.

_____. 2012c. Annual Monitoring Network Report for Small Districts in California. June 2012.

Cayan, D. 2009. Climate change – what southern California should prepare for?" In *Climate change and the future of southern California.* Southern California Association of Governments. July 2009.

CCSP (Climate Change Science Program). 2008. Preliminary review of adaptation options for climate-sensitive ecosystems and resources: a report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. [Julius, S.H., J.M. West, editors., J.S. Baron, B. Griffith, L.A. Joyce, P. Kareiva, B.D. Keller, M.A. Palmer, C.H. Peterson, and J.M. Scott, authors.

Coachella Valley Regional Water Management Group. 2010. Final Coachella Valley Integrated Regional Water Management Plan. December 2010.

Coastal Resources Center. 2009. Adapting to coastal climate change: a guidebook for development planners. University of Rhode Island and International Resources Group.

EPA (U.S. Environmental Protection Agency). 2011. Climate change handbook for regional water planning. Prepared for U.S. Environmental Protection Agency, Region 9 and California Department of Water Resources, in partnership with U.S. Army Corps of Engineers South Pacific Division, Resources Legacy Fund, U.S. Environmental Protection Agency Office of Research and Development. Prepared by CDM under EPA Contract Number EPA099BOA002. November 2011. <http://www.water.ca.gov/climatechange/CCHandbook.cfm>.

Friggens, M. M., M. V. Warwell, J. C. Chambers, and S. G. Kitchen. 2012. Modeling and Predicting Vegetation Response of Western USA Grasslands, Shrublands, and Deserts to Climate Change. Pages 1 - 20 *in* Finch, D. M., ed. Climate change in grasslands, shrublands, and deserts of the interior American West: a review and needs assessment. Gen. Tech. Rep. RMRS-GTR-285. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.

GBUAPCD (Great Basin Unified Air Pollution Control District). 2012. Ambient Air Monitoring Network Plan. April 12, 2012.

MDAQMD (Mojave Desert Air Quality Management District). 2013. West Mojave Plan Air Quality Evaluation Report. April, 2013.

SCAQMD (South Coast Air Quality Management District). 2012. South Coast Air Quality Management District Annual Air Quality Monitoring Network Plan.

USFWS (U.S. Fish and Wildlife Service). 2013. Sonny Bono Salton Sea National Wildlife Refuge Complex – Sonny Bono Salton Sea NWR – Coachella Valley NWR. Draft Comprehensive Conservation Plan and Environmental Assessment, Volume 1, July 2013. U.S. Department of Interior, Fish and Wildlife Service.

Section 3.3 Geology, Soils, and Water

Beeby, D.J., R.V. Miller, R.L. Hill, and R.E. Grunwald. 2002. Aggregate resources in the Los Angeles metropolitan area, Calif. Div. of Mines and Geology, Miscellaneous Map No. 010.

Bortugno, Edward J. and Spittler, Thomas E. 1986. Geologic map of the San Bernardino quadrangle, California, 1:250,000.

BLM (U.S. Bureau of Land Management). 2005. Interpreting Indicators of Rangeland Health, BLM Tech Reference 1734-6, Version 4.

Dibblee, Thomas. 1970. Geology of the Transverse Ranges in Mineral Information Service, California Division of Mines and Geology, V. 23, No. 2: pp. 35-37.

Hedrick, J.B. 2002. Yttrium, U.S. Geological Survey, mineral commodity Summaries, pp. 186-187.

Izbicki, J.A., R.U. Johnson, R.U., J. Kolongoski, and S. Predmore. 2007. Ground-Water Recharge from Small Intermittent Streams in the Western Mojave Desert, California: USGS Professional Paper 1703, Chapter G.

Izbicki, J.A. and R.L. Michel. 2004. Movement and age of ground water in the western part of the Mojave Desert, southern California, USA: U.S. Geological Survey Water Resources Investigations Report 03–4314.

Leszcykowski, A., et al., 1993, Mineral resources of the West Mojave Desert tortoise habitat (category one and two lands), U.S. Bureau of Mines, Western Field Operations Center, Special Publication, unpublished report prepared at the request of the BLM to conduct a study of the mineral resources as mandated by the National Materials and Minerals Policy, Research and Development Act of 1980, pp. 68, Appendix A & B, four plates, 1:100,000 scale.

Ver Planck, W.E. 1957. Stontium: California Division of Mines and Geology, Mineral Commodities of California, Bull. 176, pp. 607-611.

Wright, L.A., R.M. Stewart, T.E.Gay Jr., and G.C. Hazenbush. 1953. Mines and mineral deposits of San Bernardino County, California. California Jour. Mines and Geology. vol. 49, nos.1 and 2, pp. 247, tab. list.

Section 3.4 Biological Resources

Best, T. L. 1995. Spermophilus mohavensis. Mammalian Species 509:1-7.

BLM (U.S. Bureau of Land Management). 2005. Western Mojave (WEMO) Final EIS.

Burge, B.L. 1978. Physical characteristics and patterns of utilization of cover sites by Gopherus agassizii in southern Nevada. Proceedings of the 1978 Symposium, Desert Tortoise Council.

Charis Corporation, 2002, Distribution and abundance of Lane Mountain milk-vetch (Astragalus jaegerianus), report of Spring-Summer 2001 survey, prepared for U.S. Army National Training Center, Fort Irwin, California, Contract No. GS09K99BHD0007, 56 pp., maps.

DRECP (Desert Renewable Energy Conservation Plan). 2012. Baseline Biology Report. March, 2012.

Duda, J. J., A. J. Krzysik and J. E. Freilich. 1999. Effects of drought on desert tortoise movement and activity. Journal of Wildlife Management 63(4): 1181-1192.

Gustafson, J. R. 1993. A status review of the Mohave ground squirrel (Spermophilus mohavensis). California Department of Fish and Game, Wildlife Management Division, Nongame Bird and Mammal Section Report 93-9, 104 pp. + appendices. Sacramento, CA.

Nagy, K.A. and P.A. Medica. 1986. Physiological ecology of desert tortoises in southern Nevada. Herpetologica 42(1):73-92.

Turner, F.B., K.H. Berry, D.C. Randall, and G.C. White. 1987. Population ecology of the desert tortoise at Goffs, California 1983-1986. Report to Southern California Edison Company from the Laboratory of Biomedical and Environmental Sciences, Univ. of Calif., Los Angeles, CA.

USFWS (U.S. Fish and Wildlife Service). 1986b. Pacific Bald Eagle Recovery Plan. Portland, OR.

Weinstein, M., K.H. Berry, and F.B. Turner. 1986. An analysis of habitat relationships of the desert tortoise in California. A report to Southern California Edison Company. Rosemead, CA.

Section 3.6 Recreation Activities

BLM (U.S. Bureau of Land Management). 1993. Spangler Hills Off-Highway Vehicle Area Management Plan.

BLM (U.S. Bureau of Land Management). 2005. Western Mojave (WEMO) Plan EIS. *State of California, Department of Finance, Report P-1 (County): State and County Total Population Projections, 2010-2060.* Sacramento, California, January 2013.

Section 3.7 Grazing

BLM (U.S. Bureau of Land Management). 2006. Western Mojave (WEMO) Plan.

Section 3.9 Cultural Resources

Barnes, James J. 2001. The Life of Reilly: The Archaeology of an 1880s Silver Mine in PanamintValley, California. Master's Thesis, Sonoma State University.

Bean, Lowell J. and Charles R. Smith. 1978. Serrano. In The Handbook of North American Indians, Volume 8: California edited by Robert F. Heizer. Smithsonian Institution, Washington D.C.

Bean, Lowell J. and Thomas C. Blackburn. 1978. Native Californians – A Theoretical Retrospective. Ballena Press, Socorro, NM.

BLM (U.S. Bureau of Land Management). 1980. CDCA Proposed Plan Final Environmental Impact Statement, Appendix Volume D.

Carbone, L. 1991. Early Holocene Environments and Paleoecological Contexts on the Central and Southern California Coast. In J. Erlandson and R. Colten, eds. Hunter-Gatherers of Early Holocene Coastal California. Institute of Archaeology, University of California, Los Angeles.

Davis, J.F. and T.P. Anderson. 1980. "Mineral Resources of the California Desert-An Overview" in Geology and Mineral Wealth of the California Desert, South Coast Geological Society, pp. 122-127.

Kroeber, A. L. 1925. Handbook of the Indians of California. Smithsonian Institution, Bureau of American Ethnology Bulletin 78. Reprinted 1976, Dover Publications, Inc, New York.

Larsen, D. and Michaelson, J. 1989. Climatic Variability: a Compounding factor causing Culture Change among Prehistoric Coastal Populations. Institute of Archaeology, University of California, Los Angeles.

Liljeblad, Sven and Catherine S. Fowler. 1986. Owens Valley Paiute. In: Handbook of North American Indians, Vol. 11: Great Basin. Warren L. D'azevedo, Vol. Editor. Smithsonian Institution, Washington.

Norwood, Richard H., Charles S. Bull, and Ronald Quinn. 1980. A Cultural Resource Overview of the Eureka, Saline, Panamint and Darwin Region, East Central, California. Bureau of Land Management, California Desert District Cultural Resources Publications; Eric Ritter, General Editor.

Savage, Donald E. and Theodore Downs. 1954. Cenozoic Land Life of Southern California. In Geology of Southern California: Historical Geology. California Division of Mines Bulletin 170, Contribution 6.

Steward, Julian H. 1933. Ethnography of the Owens Valley Paiute. University of California Publications in American Archaeology and Ethnology 33:233-350. Berkeley, CA.

Thomas, David H., Lorann S.A. Pendleton, and Stephen C. Cappannari. 1986. Western Shoshone. In Handbook of North American Indians, Vol. 11: Great Basin. Warren L. D'azevedo, Vol. Editor. Smithsonian Institution, Washington, D.C.

Whistler, David P. 1990. A Late Pleistocene (Rancholabrean) Fossil Assemblage from the Northwestern Mojave Desert, California. San Bernardino County Museum Association Quarterly, Vol. XXXVI, No. 2. Redlands, CA.

Woodburne, Michael O. 1978. Fossil Vertebrates in the California Desert Conservation Area. Report Prepared As Part of the California Desert Conservation Area Management Plan. On File at the Bureau of Land Management. Barstow, CA.

Zigmond, Maurice. 1986. Kawaiisu. In Handbook of North American Indians, Vol. 11: Great Basin. Warren L. D'azevedo, Vol. Editor. Smithsonian Institution, Washington, D.C.

Section 3.10 Visual Resources

BLM (U.S. Bureau of Land Management). 1986. Handbook H-8410-1, Visual Resources Inventory.

Section 3.11 Special Designations

BLM (U.S. Bureau of Land Management). 1979. Wilderness Inventory Final Descriptive Narratives. March, 1979.

_____. 1989. Afton Canyon Natural Area management plan.

_____. 2012. Wilderness Study Area Manual MS-6330.

_____. 2012. Manual MS-6340, Management of Designated Wilderness Areas.

Desert Managers Group. 1995. 43 CFR 6300, Wilderness Management, and Principles for Wilderness Management in the California Desert.

Section 3.12 Noise

Boarman, W.I. 2002. Threats to desert tortoise populations: A critical review of the literature. Unpublished report prepared for the West Mojave Planning Team, Bureau of Land Management. U.S. Geological Survey, Western Ecological Research Center. San Diego, CA.

FHWA (Federal Highway Administration). 2011. Noise Effect on Wildlife. Accessed at: <www.fhwa.dot.gov/environment/noise/noise_effect_on_wildlife/effects/wild04.cfm>.

USFWS (U.S. Fish and Wildlife Service). 1988. Biological resource inventory, Mojave B - Range South, San Bernardino County, California. Prepared on behalf of U.S. Army Corps of Engineers. Laguna Niguel, CA.

Chapter 4 Environmental Consequences

Boarman, W.I. 2002. Threats to desert tortoise populations: A critical review of the literature. Unpublished report prepared for the West Mojave Planning Team, Bureau of Land Management. U.S. Geological Survey, Western Ecological Research Center. San Diego, CA.

Brooks, M. 1998. Effects of fire on the desert tortoise (Gopherus agassizii). Proceedings of the International Conference on Turtles and Tortoises. pp. 7.

BLM (U.S. Bureau of Land Management). 2011. Record of Decision for the DesertXpress Enterprises, LLC High-Speed Passenger Train Project. October. <http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/Barstow/pubs.Par.2523.File.dat/DXE%20ROD%20FINAL%20updated%2010-28-11.pdf>.

_____. 2013a. Fast Facts about Renewable Energy Projects. <http://www.blm.gov/nv/st/en/prog/energy/fast-track_renewable.html>. Accessed April 3, 2013.

_____. 2013b. Active Energy Projects – BLM Arizona. <http://www.blm.gov/az/st/en/prog/energy/active.html>. Accessed April 3, 2013.

BLM and San Bernardino County, 2012a. Calnev Pipeline Expansion Project Draft Environmental Impact Statement/Environmental Impact Report. March. <http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/Barstow/calnev_pipeline.Par.95926.File.dat/DEIS-EIR%20for%20Calnev%20Pipeline%20Expansion%20Project_FOR%20CD3.pdf>.

CEQ (Council on Environmental Quality). 2005. *Guidance on the Consideration of Past Actions in Cumulative Effects Analysis*. June 24, 2005.

FRA (Federal Railroad Administration). 2011a. Final Environmental Impact Statement and Final Section 4(f) Evaluation for the Proposed DesertXpress High-Speed Passenger Train Victorville, California to Las Vegas, Nevada. March.

FRA (Federal Railroad Administration). 2011b. Record of Decision DesertXpress High-Speed Passenger Train. July. <http://www.fra.dot.gov/rpd/downloads/ROD_FINAL.pdf>.

Hoff, K.v.S., and R.W. Marlow. 2002. Impacts of vehicle road traffic on desert tortoise populations with consideration of conservation of tortoise habitat in southern Nevada. Chelonian Conservation and Biology 4:449-456.

Lovich, J. E. and D. Bainbridge. 1999. Anthropogenic degradation of the southern California desert ecosystem and prospects for natural recovery and restoration. Environmental Management. Vol. 24, No. 3, pp 309-326.

Lyneis, Margaret M., David L. Weide, and Elizabeth vonTill Warren. 1980. Impacts: Damage to Cultural Resources in the California Desert. Bureau of Land Management, California Desert District Cultural Resources Publications, Eric W. Ritter, General Editor.

National Renewable Energy Laboratory, 2013. Mojave Solar Project. <www.nrel.gov/csp/solarpaces/project_detail.cfm/projectID=57> Accessed April 15, 2013.

Ouren, DS. et.al., 2007. Environmental Effects of Off-Highway Vehicles on Bureau of Land Management Lands: A Literature Synthesis, Annotated Bibliographies, Extensive Bibliographies, and Internet Resources. US Department of the Interior, US Geological Survey, Open File Report 2007-1353, Reston, Virginia, 2007. 241 pgs.

Pacific Wind Development, LLC, 2011. Plan of Development Silurian Valley Wind Energy Project. May.

Trombulak, S. C. and C. A. Frissell. 2000. Review of ecological effects of roads on terrestrial and aquatic communities. Conservation Biology, Vol. 14, No. 1, February 2000.

U.S. Department of Energy, 2013. Abengoa Solar, Inc. (Mojave Solar). <https://lpo.energy.gov/?projects=abengoa-solar-inc-mojave-solar> Accessed April 15, 2013.

USFWS (U.S. Fish and Wildlife Service). 2002a. Biological Opinion for the California Desert Conservation Area Plan [Lane-Mountain Milk-vetch, Ash Meadows Gumplant, and Amargosa Niterwort], Memorandum from Field Supervisor, Ventura Fish and Wildlife Office, Ventura, California to State Director, Bureau of Land Management, Sacramento, CA. 52 pp.

USFWS. 2011. Revised Recovery Plan for the Mojave Population of the Desert Tortoise (Gopherus agassizii). U. S. Fish and Wildlife Service, Sacramento, Ca.

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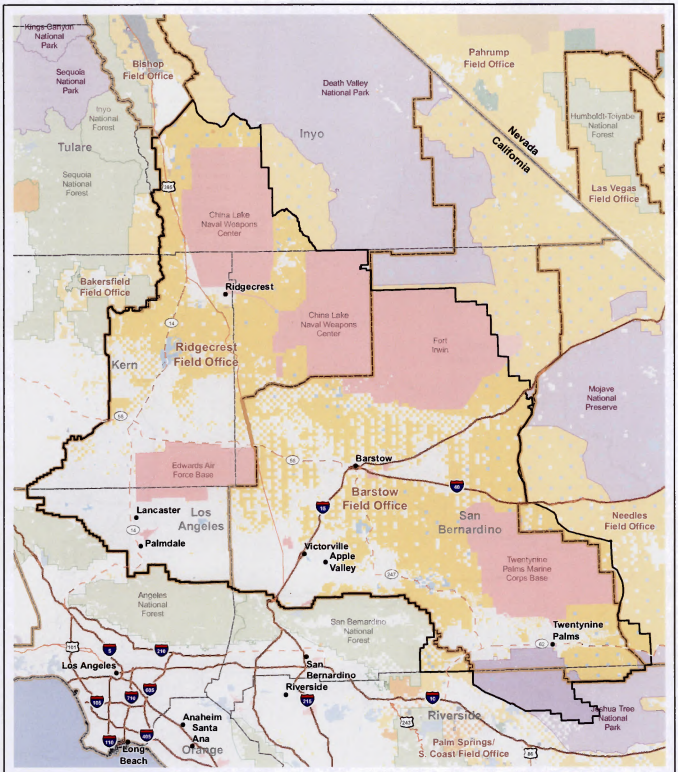


City or Town
Interstate Highway
U.S. Highway
State Highway
WEMO Planning Area
BLM Field Office Boundary
State Boundary
County Boundary

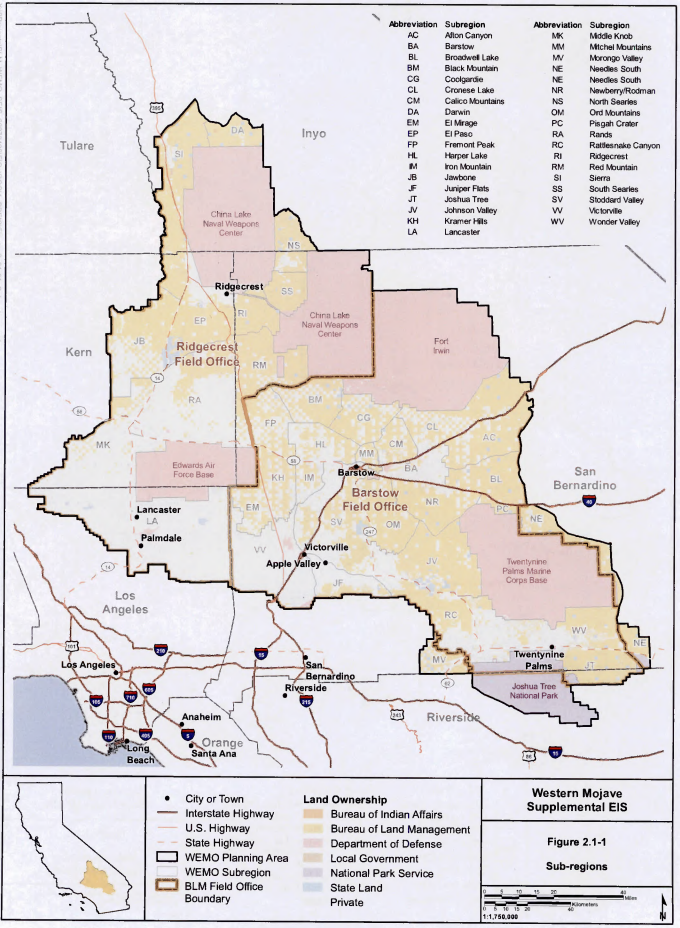
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Bureau of Reclamation
Department of Defense
Fish and Wildlife Service
Forest Service
Local Government
National Park Service
State
Private

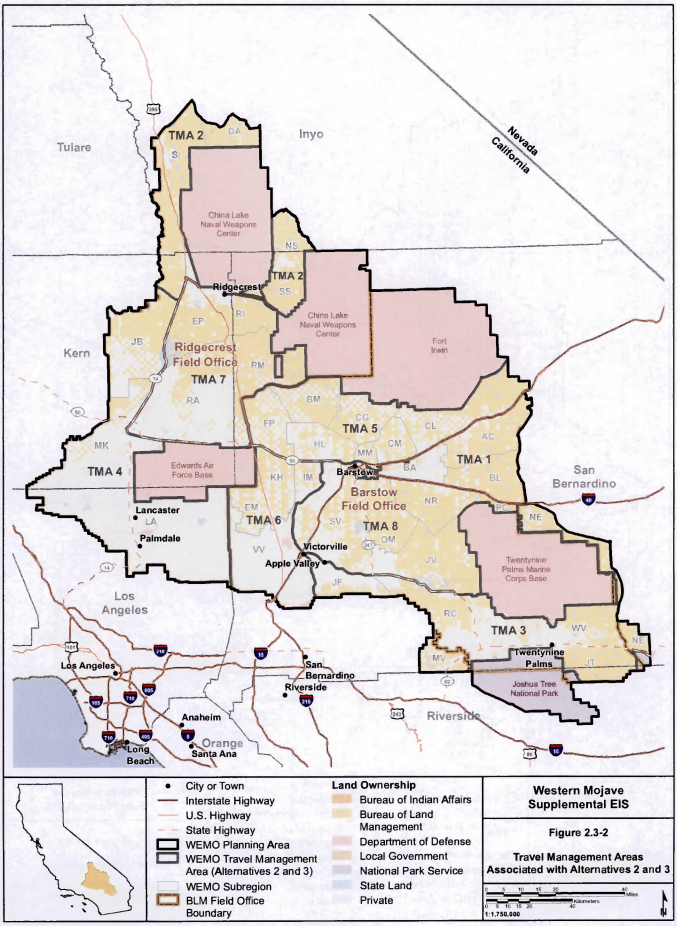
Western Mojave Supplemental EIS

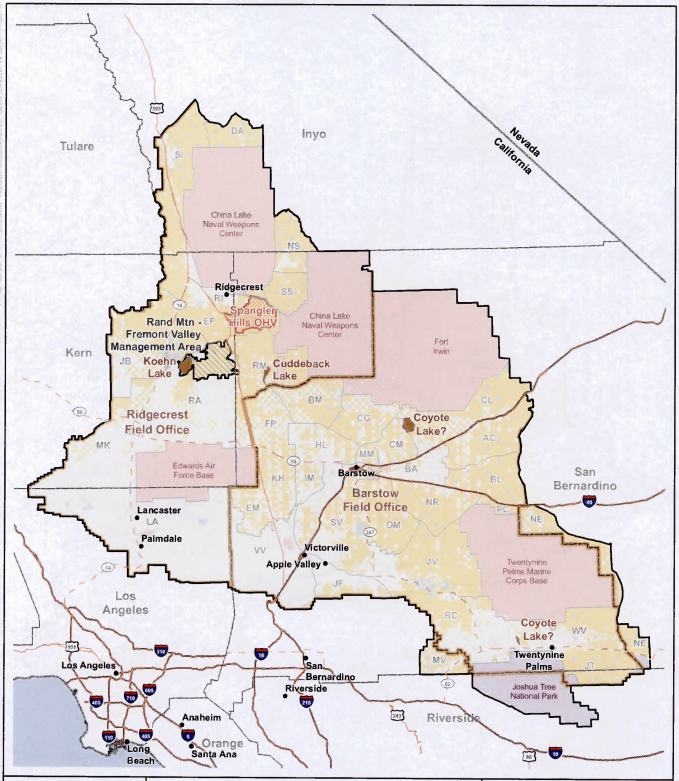
Figure 1.1-1

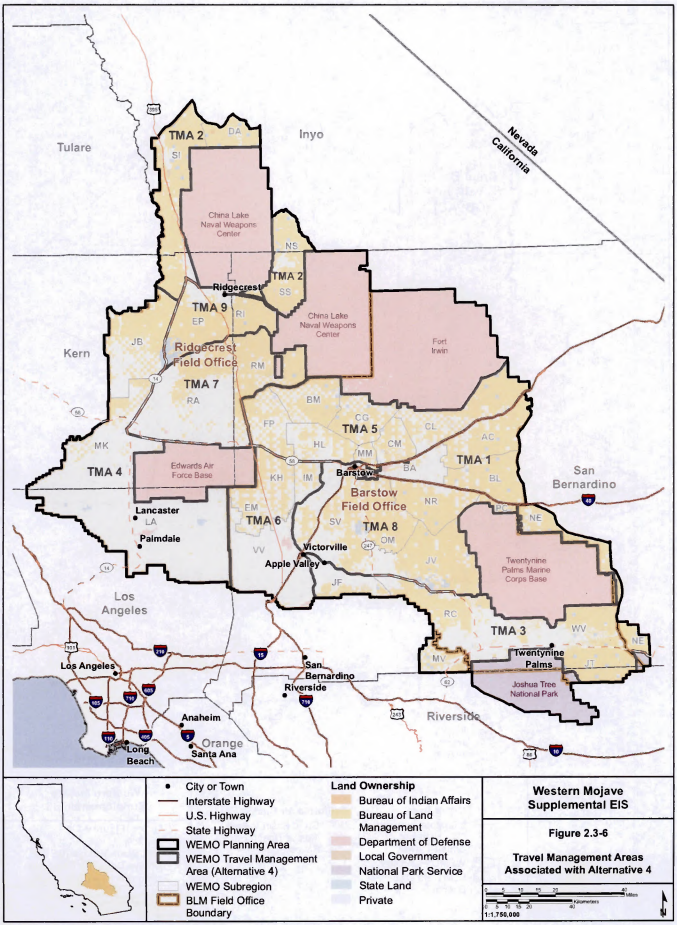
Western Mojave General Location

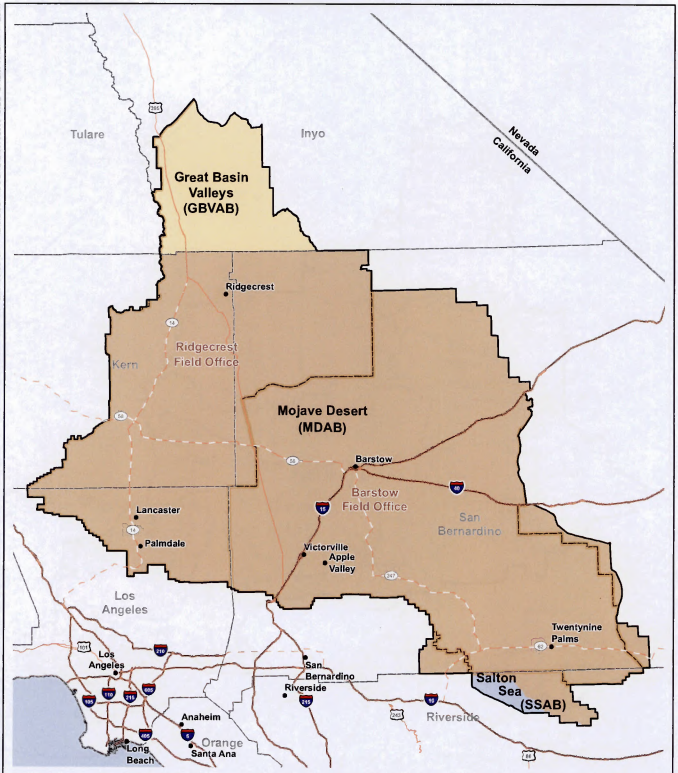
0 5 10 15 20 40 Miles
0 5 10 15 20 40 Kilometers
1:1,750,000


Abbreviation Subregion
AC Alton Canyon
BA Barstow
BL Broadwell Lake
BM Black Mountain
CG Coolgardie
CL Cronese Lake
CM Calico Mountains
DA Darwin
EM El Mirage
EP El Paso
FP Fremont Peak
HL Harper Lake
IM Iron Mountain
JB Jawbone
JF Juniper Flats
JT Joshua Tree
JV Johnson Valley
KH Kramer Hills
LA Lancaster
Abbreviation Subregion
MK Middle Knob
MM Mitchel Mountains
MV Morongo Valley
NE Needles South
NE Needles South
NR Newberry/Rodman
NS North Searles
OM Ord Mountains
PC Pisgah Crater
RA Rands
RC Rattlesnake Canyon
RI Ridgecrest
RM Red Mountain
SI Sierra
SS South Searles
SV Stoddard Valley
VV Victorville
WV Wonder Valley
Tulare
Inyo
Kern
San Bernardino
Los Angeles
Riverside
Orange
China Lake Naval Weapons Center
Ridgecrest Field Office
Barstow Field Office
Edwards Air Force Base
Fort Irwin
Twentynine Palms Marine Corps Base
Joshua Tree National Park
Ridgecrest
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
San Bernardino
Riverside
Los Angeles
Anaheim
Santa Ana
Long Beach
City or Town
Interstate Highway
U.S. Highway
State Highway
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 2.1-1
Sub-regions
Miles
Kilometers
1:1,750,000
N


TMA 2
Inyo
Tulare
Nevada
California
China Lake Naval Weapons Center
Ridgecrest
TMA 2
China Lake Naval Weapons Center
Fort Irwin
Kern
Ridgecrest Field Office
TMA 7
TMA 5
TMA 1
TMA 4
Edwards Air Force Base
Barstow
San Bernardino
Barstow Field Office
Lancaster
Palmdale
TMA 6
TMA 8
Victorville
Apple Valley
Twentynine Palms Marine Corps Base
Los Angeles
TMA 3
Twentynine Palms
Joshua Tree National Park
Los Angeles
San Bernardino
Riverside
Anaheim
Orange
Santa Ana
Long Beach
Riverside
City or Town
Interstate Highway
U.S. Highway
State Highway
WEMO Planning Area
WEMO Travel Management Area (Alternatives 2 and 3)
WEMO Subregion
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 2.3-2
Travel Management Areas Associated with Alternatives 2 and 3
Miles
Kilometers
1:1,750,000


Tulare
Inyo
Kern
Nevada
California
China Lake Naval Weapons Center
Ridgecrest
Rand Mtn - Fremont Valley Management Area
Spangler Hills OHV
China Lake Naval Weapons Center
Fort Irwin
Koehn Lake
Cuddeback Lake
Ridgecrest Field Office
Coyote Lake?
Edwards Air Force Base
Barstow
Barstow Field Office
San Bernardino
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms Marine Corps Base
Los Angeles
Coyote Lake?
Twentynine Palms
Joshua Tree National Park
Los Angeles
San Bernardino
Riverside
Anaheim
Orange
Santa Ana
Long Beach
Riverside
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Plan Amendments
Dry Lake Bed
Management Area
OHV Open Area
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 2.3-3
Plan Amendments
Miles
Kilometers
1:1,750,000


TMA 2
DA
SI
Inyo
Tulare
Nevada
California
China Lake
Naval Weapons
Center
NS
TMA 2
SS
Ridgecrest
TMA 9
EP
RI
China Lake
Naval Weapons
Center
Fort
Irwin
Kern
JB
Ridgecrest
Field Office
RM
TMA 7
RA
BM
CG
TMA 5
CL
AC
FP
HL
CM
MM
MK
TMA 4
Edwards Air
Force Base
KH
IM
Barstow
BA
TMA 1
BL
San
Bernardino
Barstow
Field Office
NR
EM
TMA 6
SV
TMA 8
NE
Lancaster
LA
Palmdale
Victorville
OM
VV
Apple Valley
JV
Twentynine
Palms Marine
Corps Base
JF
Los
Angeles
RC
TMA 3
WV
MV
Twentynine
Palms
IT
Los Angeles
San
Bernardino
Riverside
Joshua Tree
National Park
Riverside
Anaheim
Orange
Long
Beach
Santa Ana
City or Town
Interstate Highway
U.S. Highway
State Highway
WEMO Planning Area
WEMO Travel Management
Area (Alternative 4)
WEMO Subregion
BLM Field Office
Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land
Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave
Supplemental EIS
Figure 2.3-6
Travel Management Areas
Associated with Alternative 4
Miles
Kilometers
1:1,750,000


Tulare
Inyo
Nevada
California
Great Basin Valleys (GBVAB)
Ridgecrest
Ridgecrest Field Office
Kern
Mojave Desert (MDAB)
Barstow
Barstow Field Office
San Bernardino
Lancaster
Palmdale
Victorville
Apple Valley
Los Angeles
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Salton Sea (SSAB)
Anaheim
Orange
Santa Ana
Long Beach
Riverside
City or Town
Interstate Highway
U.S. Highway
State Highway
WEMO Planning Area
BLM Field Office Boundary
California Air Basins
Great Basin Valleys
Mojave Desert
Salton Sea
Western Mojave Supplemental EIS
Figure 3.2-1
Great Basin Valleys (GBVAB), Mojave Desert (MDAB) and Salton Sea (SSAB) Air Basins
Miles
Kilometers
1:1,750,000

Tulare
Inyo
Nevada
California
Great Basin Unified
Ridgecrest
Ridgecrest Field Office
Kern
Kern
Mojave Desert
Barstow
Barstow Field Office
San Bernardino
Lancaster
Antelope Valley
Palmdale
Victorville
Apple Valley
Los Angeles
Twentynine Palms
Los Angeles
San Bernardino
Riverside
South Coast
Anaheim
Long Beach
Orange
Santa Ana
Riverside
City or Town
Interstate Highway
U.S. Highway
State Highway
WEMO Planning Area
BLM Field Office Boundary
Air Quality Management Districts
Antelope Valley
Great Basin Unified
Kern
Mojave Desert
South Coast
Western Mojave Supplemental EIS
Figure 3.2-2
Regional Air Quality Management Districts
Miles
Kilometers
1:1,750,000

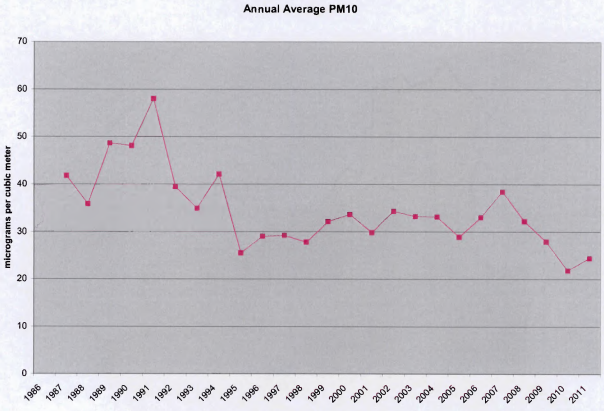


Figure 3.2-3 Trend in Annual Average PM10 Concentrations

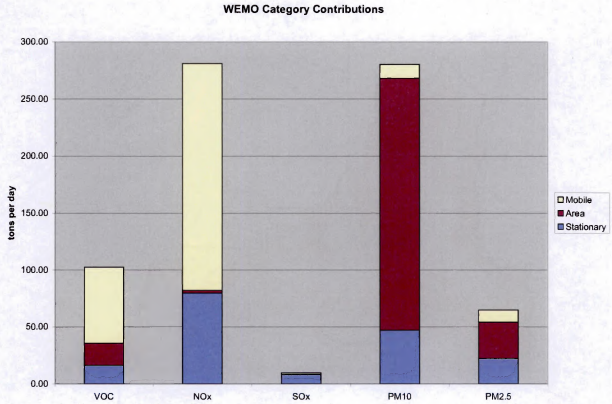
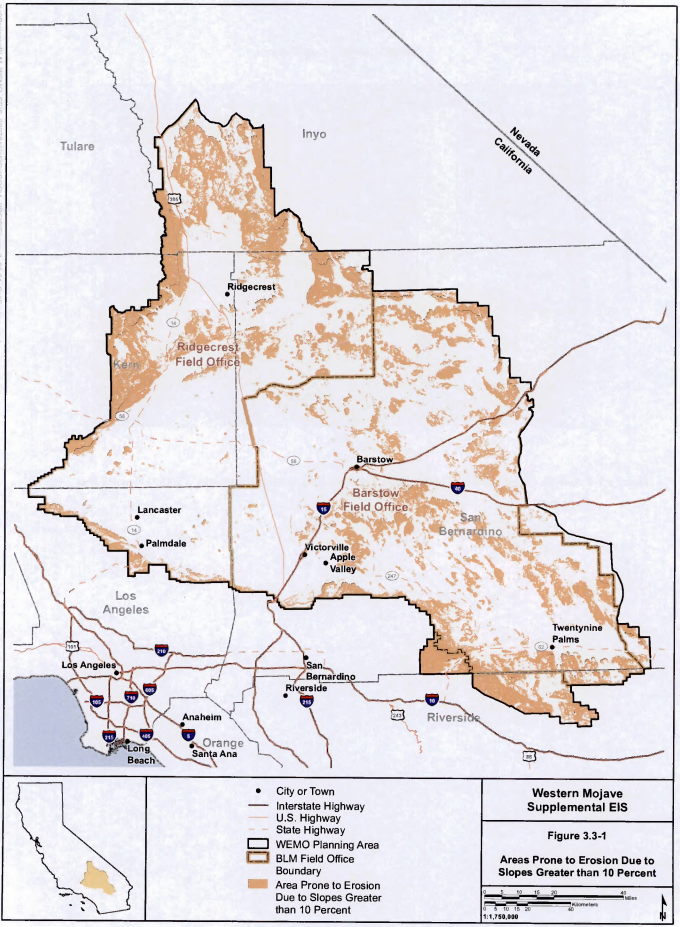
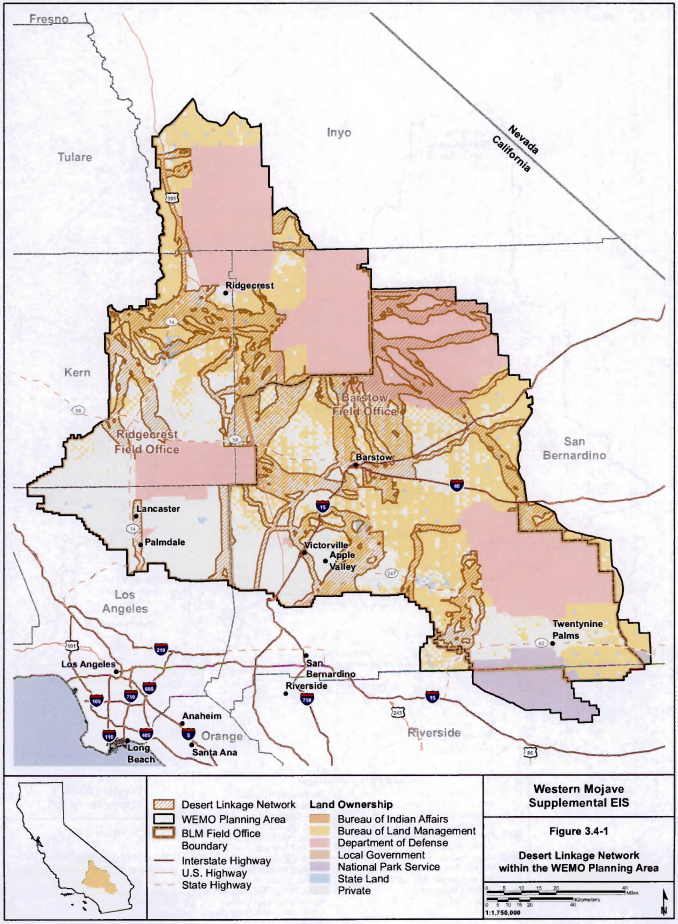
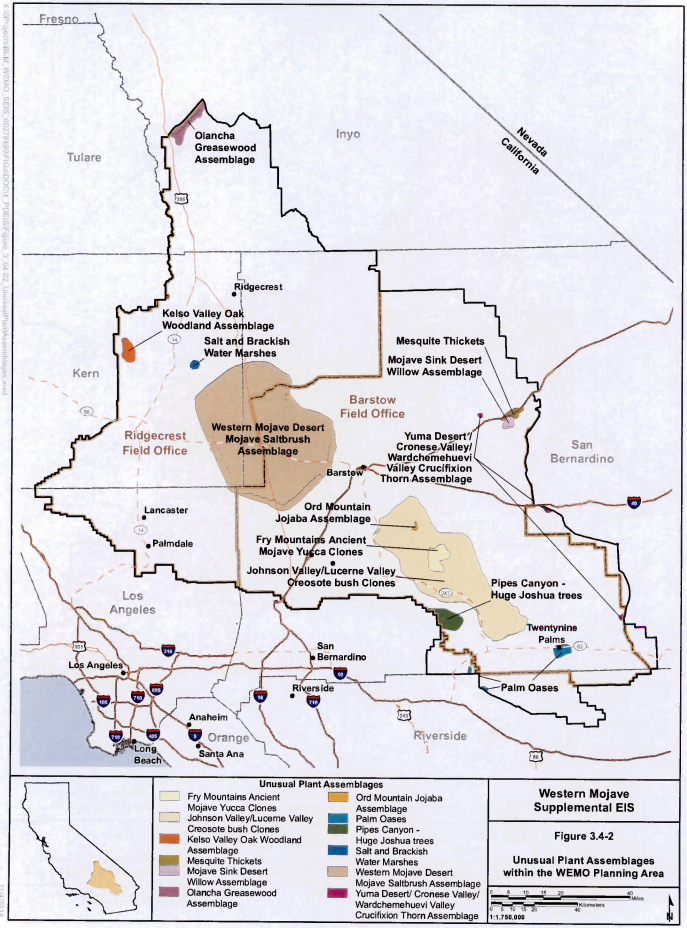


Figure 3.2-4 Relative Concentrations of Mobile, Area, and Stationary Air Emission Sources in WEMO Planning Area


Tulare
Inyo
Nevada
California
Ridgecrest
Ridgecrest Field Office
Kern
Barstow
Barstow Field Office
San Bernardino
Lancaster
Palmdale
Victorville
Apple Valley
Los Angeles
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Orange
Long Beach
Santa Ana
Riverside
City or Town
Interstate Highway
U.S. Highway
State Highway
WEMO Planning Area
BLM Field Office Boundary
Area Prone to Erosion Due to Slopes Greater than 10 Percent
Western Mojave Supplemental EIS
Figure 3.3-1
Areas Prone to Erosion Due to Slopes Greater than 10 Percent
Miles
Kilometers
1:1,750,000
N

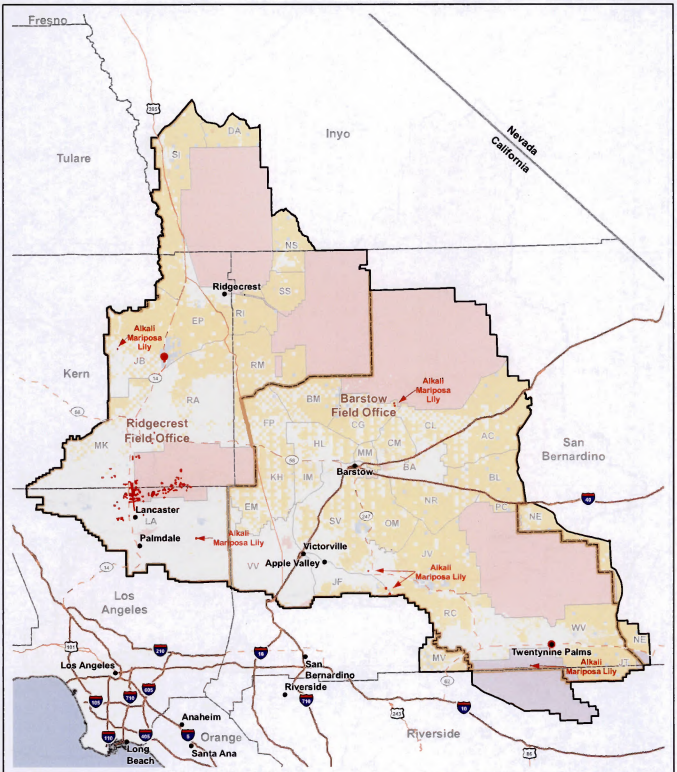

Fresno
Tulare
Inyo
Nevada
California
Kern
Ridgecrest
Ridgecrest Field Office
Barstow
Barstow Field Office
San Bernardino
Lancaster
Palmdale
Victorville
Apple Valley
Los Angeles
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Orange
Long Beach
Santa Ana
Riverside
Desert Linkage Network
WEMO Planning Area
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-1
Desert Linkage Network within the WEMO Planning Area
Miles
Kilometers
1:1,750,000



Western Mojave Supplemental EIS

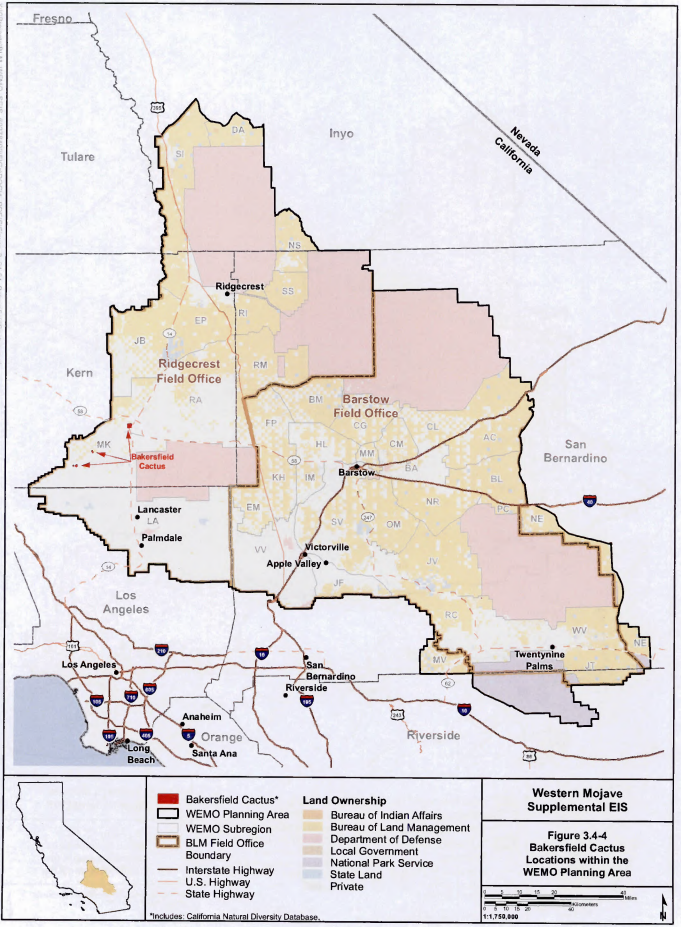
Figure 3.4-2

Unusual Plant Assemblages within the WEMO Planning Area



Western Mojave Supplemental EIS

Figure 3.4-3
Alkali Mariposa Lily Locations within the WEMO Planning Area



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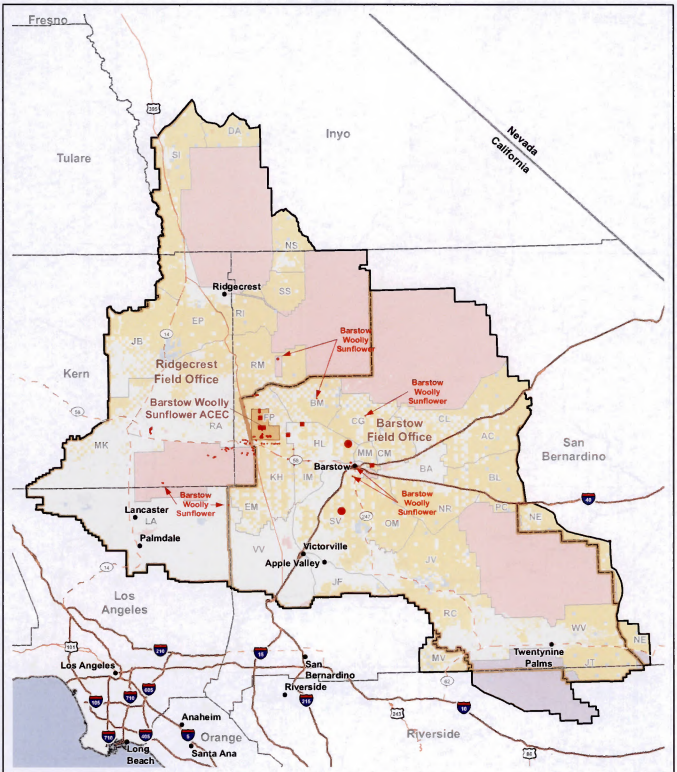
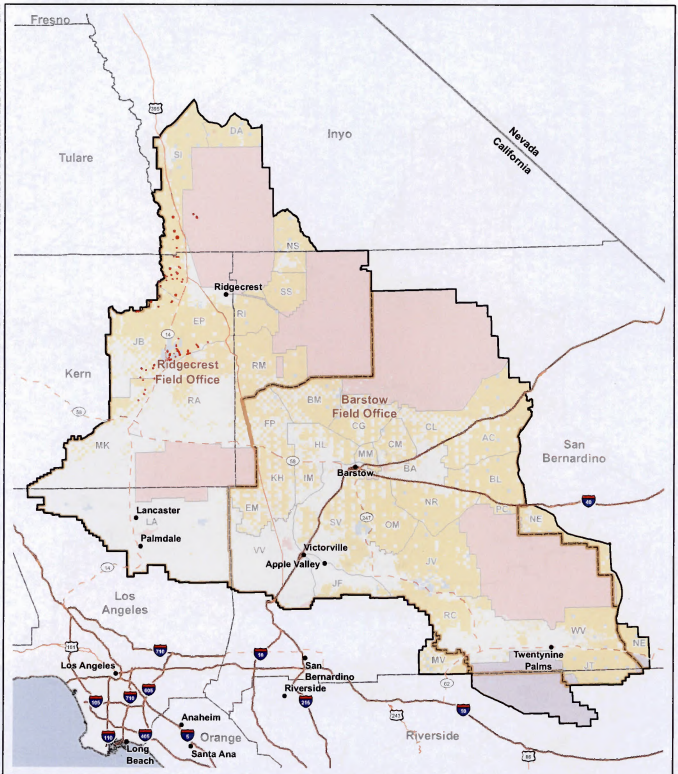
11/4/2014


Fresno
Tulare
Kern
Inyo
Nevada
California
San Bernardino
Riverside
Los Angeles
Orange
Ridgecrest
Ridgecrest Field Office
Barstow Woolly Sunflower ACEC
Barstow Woolly Sunflower
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
San Bernardino
Riverside
Twentynine Palms
Los Angeles
Anaheim
Orange
Santa Ana
Long Beach
DA
SI
NS
SS
RI
EP
JB
RM
BM
FP
RA
MK
HL
CG
CL
AC
MM
CM
BA
BL
KH
IM
EM
SV
OM
NR
PC
NE
VV
JV
JF
RC
WV
MV
JT
NP
Barstow Woolly Sunflower*
Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
*Includes: California Natural Diversity Database.
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-5
Barstow Woolly Sunflower Locations within the WEMO Planning Area
0 5 10 15 20 40 Miles
0 5 10 15 20 40 Kilometers
1:1,750,000



Charlotte's Phacelia*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary

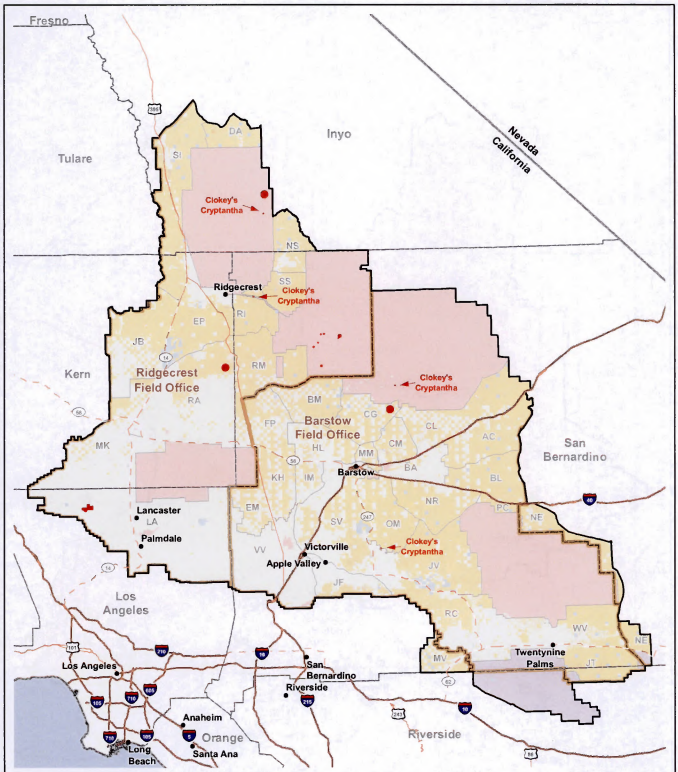
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private

*Includes: California Natural Diversity Database

Western Mojave Supplemental EIS

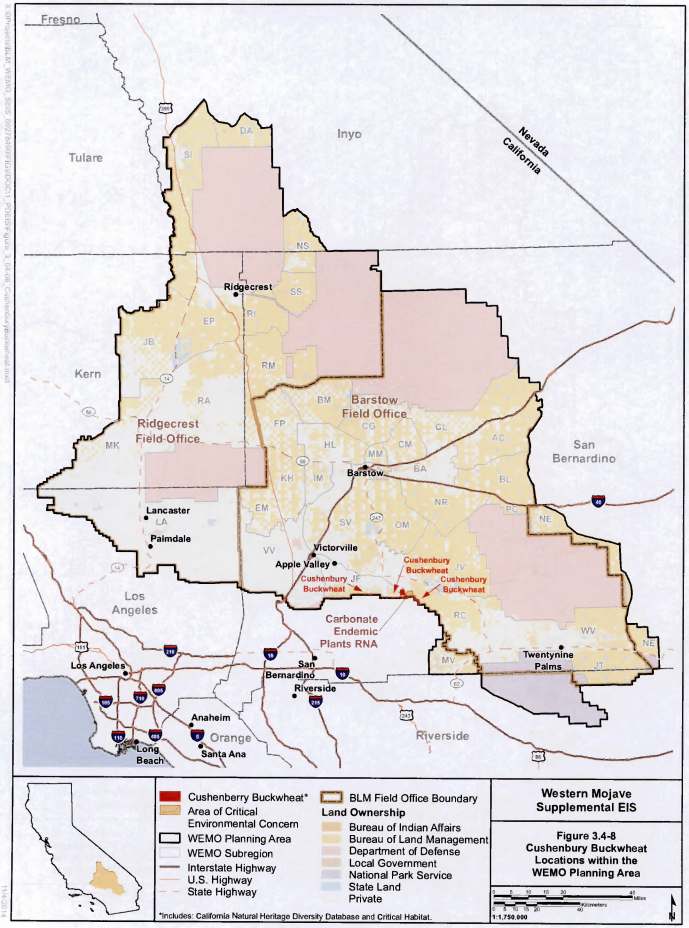
Figure 3.4-6
Charlotte's Phacelia Locations within the WEMO Planning Area

0 5 10 15 20 40 Miles
0 5 10 20 40 Kilometers
1:1,750,000



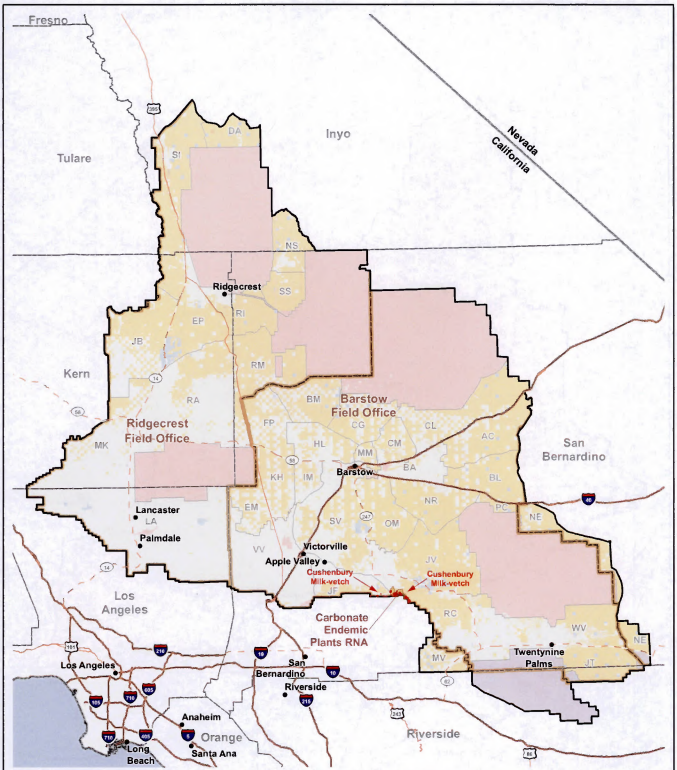
Western Mojave Supplemental EIS

Figure 3.4-7
Clokey's Cryptantha Locations within the WEMO Planning Area



Western Mojave Supplemental EIS

Figure 3.4-8
Cushenbury Buckwheat Locations within the WEMO Planning Area



Cushenbury Milk-vetch*
Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway

BLM Field Office Boundary

Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private

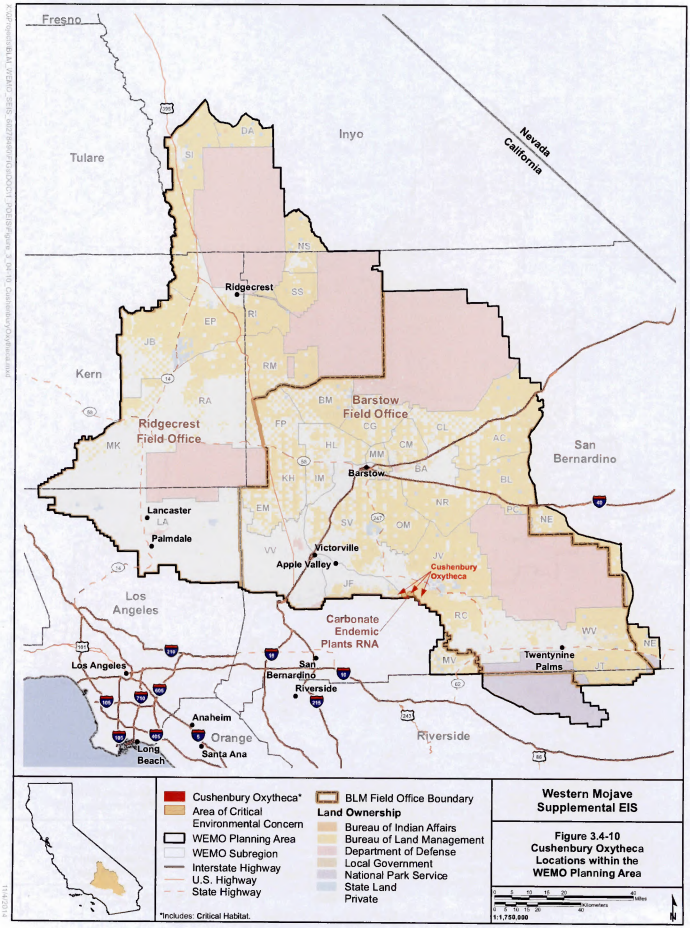
*Includes: California Natural Heritage Diversity Database and Critical Habitat.

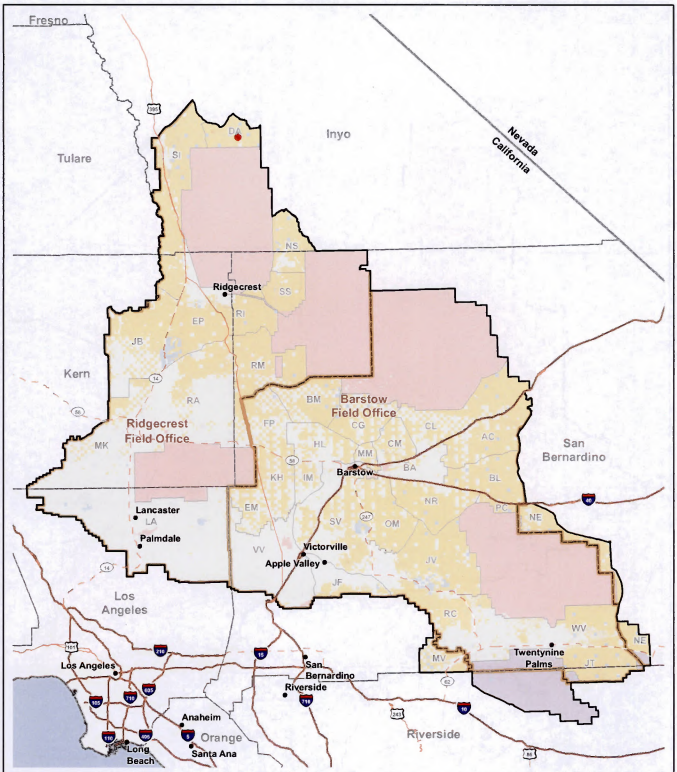
Western Mojave Supplemental EIS

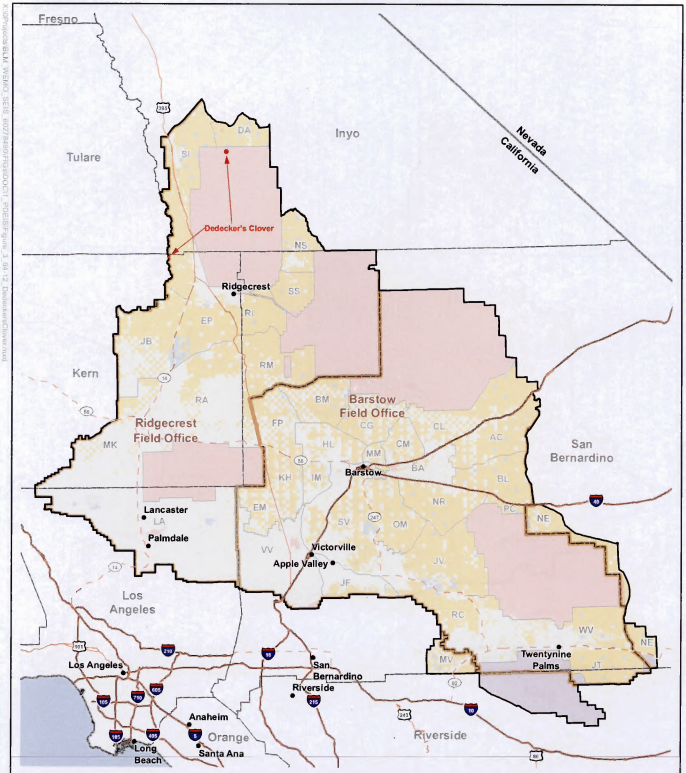
Figure 3.4-9
Cushenbury Milk-vetch Locations within the WEMO Planning Area

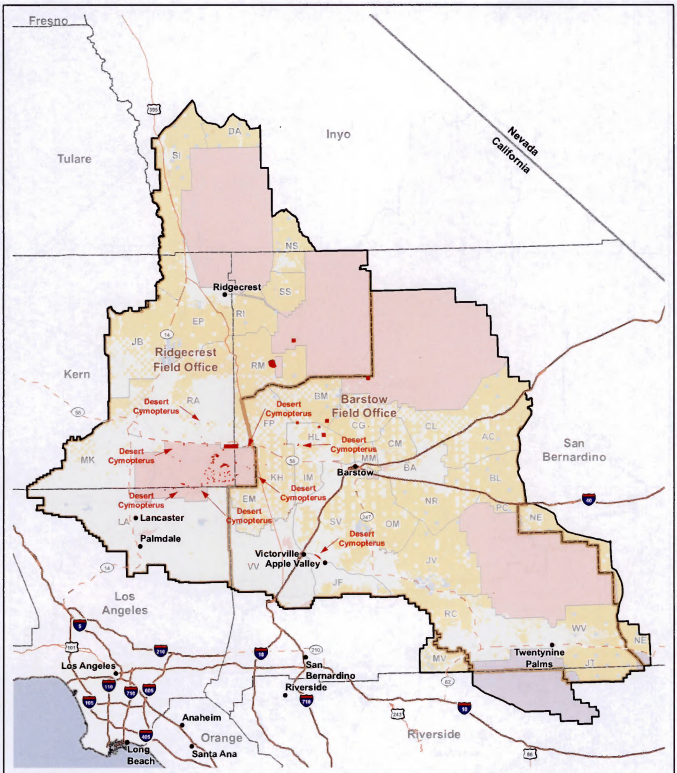
0 5 10 15 20 40 Miles
0 5 10 15 20 40 Kilometers
1:1,750,000

N


Fresno
Tulare
Kern
Inyo
Nevada
California
San Bernardino
Los Angeles
Riverside
Orange
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Cushenbury Oxytheca
Carbonate Endemic Plants RNA
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Orange
Santa Ana
Long Beach
Cushenbury Oxytheca*
Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
*Includes Critical Habitat.
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-10
Cushenbury Oxytheca Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000
N


Fresno
Tulare
Kern
Inyo
Nevada
California
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
San Bernardino
Lancaster
Palmdale
Victorville
Apple Valley
Los Angeles
Twentynine Palms
San Bernardino
Riverside
Anaheim
Orange
Santa Ana
Long Beach
Death Valley Sandpaper-plant*
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
*Includes: California Natural Diversity Database.
Western Mojave Supplemental EIS
Figure 3.4-11
Death Valley Sandpaper-plant Locations within the WEMO Planning Area
1:1,750,000


Fresno
Tulare
Kern
Inyo
Nevada
California
Dedecker's Clover
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
San Bernardino
Lancaster
Palmdale
Victorville
Apple Valley
Los Angeles
Twentynine Palms
San Bernardino
Riverside
Anaheim
Orange
Long Beach
Santa Ana
Riverside
Dedecker's Clover*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-12
Dedecker's Clover Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000
N



Desert Cymopterus*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway

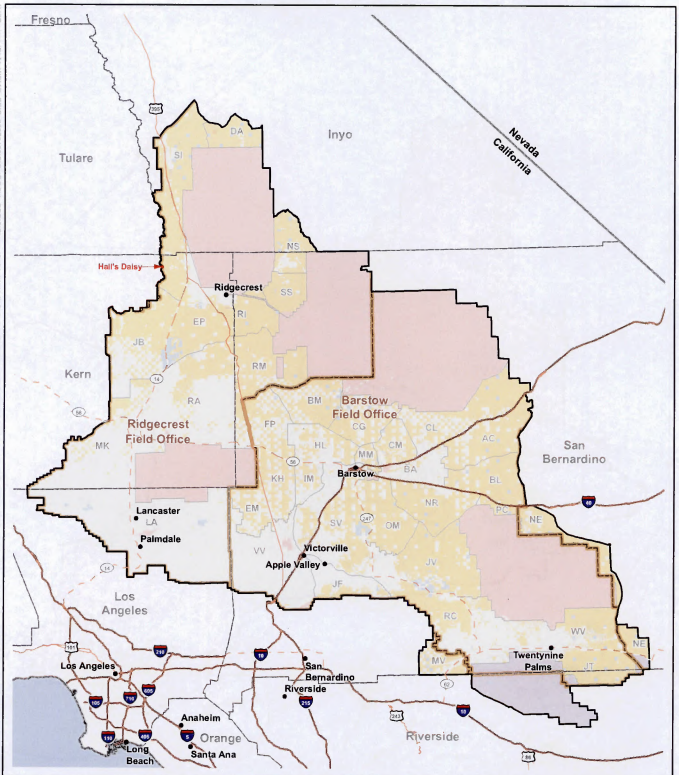
*Includes: California Natural Diversity Database.

Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private

Western Mojave Supplemental EIS

Figure 3.4-13
Desert Cymopterus Locations within the WEMO Planning Area

0 5 10 15 20 40 Miles
0 5 10 15 20 40 60 Kilometers
1:1,750,000


Fresno
Tulare
Kern
Inyo
Nevada
California
San Bernardino
Los Angeles
Riverside
Orange
Hall's Daisy
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Orange
Santa Ana
Long Beach
DA
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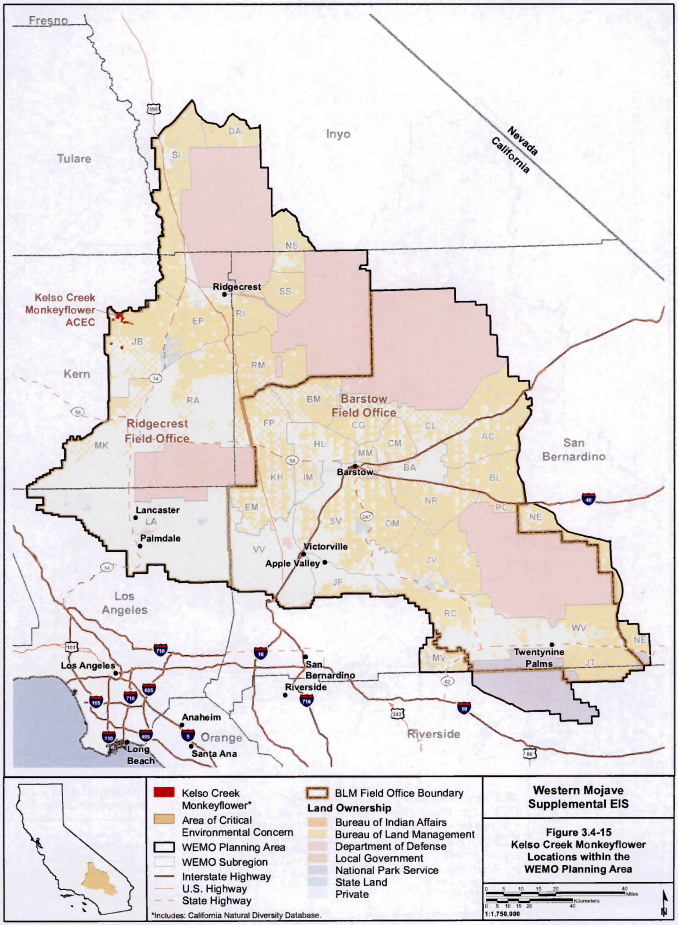
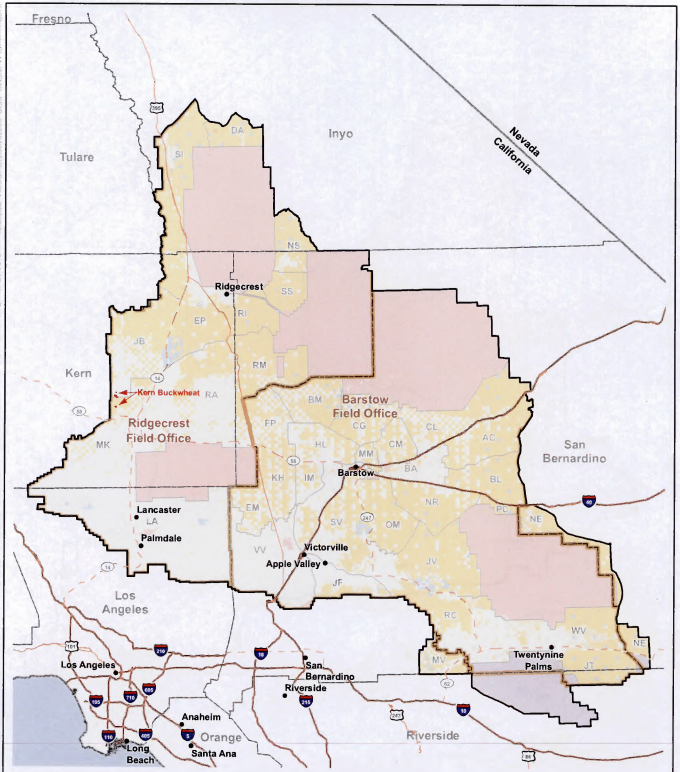
BA
KH
IM
BL
EM
LA
SV
OM
NR
PC
NE
VV
JV
JF
RC
WV
MV
NT
JT
Hall's Daisy*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-14
Hall's Daisy
Locations within the
WEMO Planning Area
0 5 10 15 20 40 Miles
0 5 10 15 20 40 Kilometers
1:1,750,000
N


Fresno
Tulare
Kern
Inyo
Nevada
California
San Bernardino
Los Angeles
Riverside
Orange
Kelso Creek Monkeyflower ACEC
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Los Angeles
San Bernardino
Riverside
Anaheim
Santa Ana
Long Beach
Twentynine Palms
DA
SI
NS
SS
RI
EP
JB
RM
RA
BM
CG
CL
FP
HL
CM
AC
MM
BA
MK
KH
IM
BL
EM
NR
PL
NE
SV
OM
VV
JV
JF
RC
WV
MV
NT
Kelso Creek Monkeyflower*
Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-15
Kelso Creek Monkeyflower Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000


Fresno
Tulare
Kern
Inyo
Nevada
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San Bernardino
Los Angeles
Riverside
Orange
Ridgecrest
Kern Buckwheat
Ridgecrest Field Office
Barstow Field Office
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Lancaster
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Victorville
Apple Valley
Twentynine Palms
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RC
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MV
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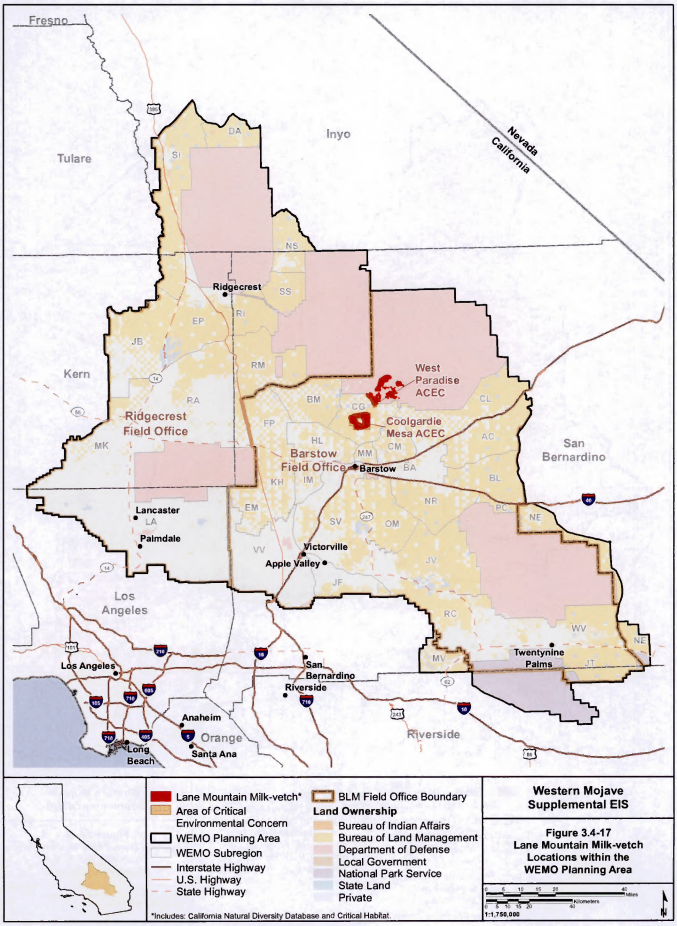
NR
Kern Buckwheat*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-16
Kern Buckwheat Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000
N


Fresno
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Kern
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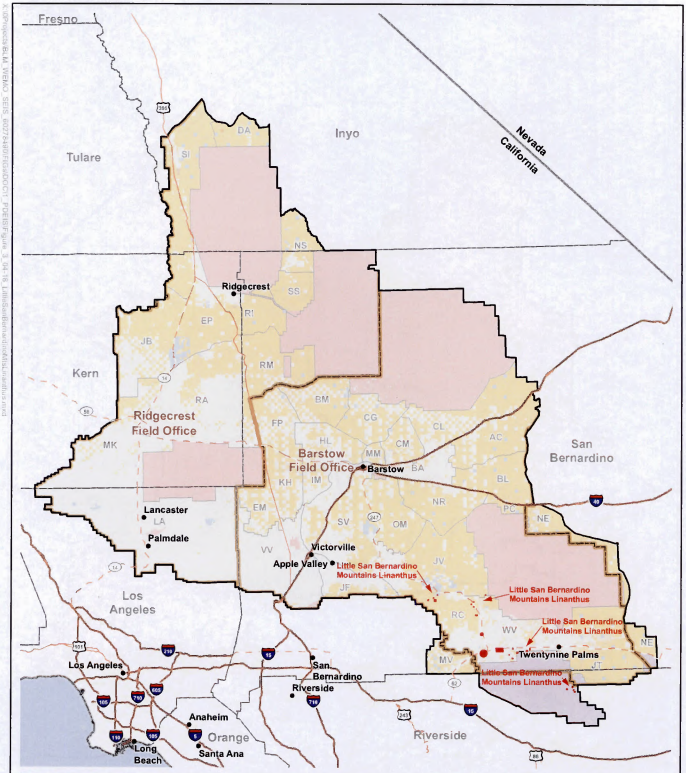
Nevada
California
San Bernardino
Riverside
Los Angeles
Orange
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
West Paradise ACEC
Coolgardie Mesa ACEC
Lancaster
Palmdale
Victorville
Apple Valley
San Bernardino
Riverside
Twentynine Palms
Los Angeles
Anaheim
Orange
Santa Ana
Long Beach
Lane Mountain Milk-vetch*
Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database and Critical Habitat.
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-17
Lane Mountain Milk-vetch Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000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Nevada
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Orange
Riverside
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Little San Bernardino Mountains Linanthus
Twentynine Palms
San Bernardino
Riverside
Los Angeles
Anaheim
Santa Ana
Long Beach
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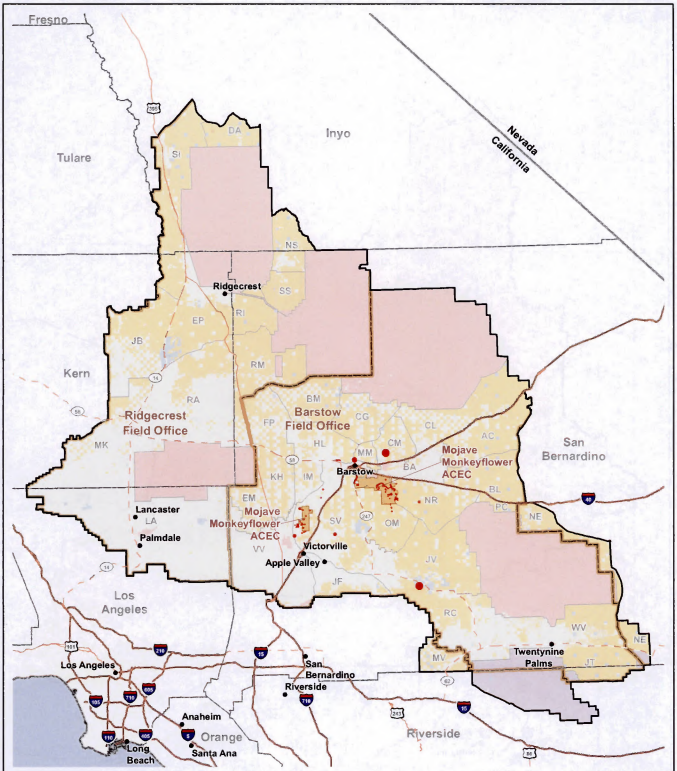
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Little San Bernardino Mountains Linanthus*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
Western Mojave Supplemental EIS
Figure 3.4-18
Little San Bernardino Mts. Linanthus Locations within the WEMO Planning Area
0 5 10 15 20 40 Miles
0 5 10 15 20 40 Kilometers
1:1,750,000
N


Fresno
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Los Angeles
Riverside
Orange
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
Mojave Monkeyflower ACEC
Mojave Monkeyflower ACEC
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
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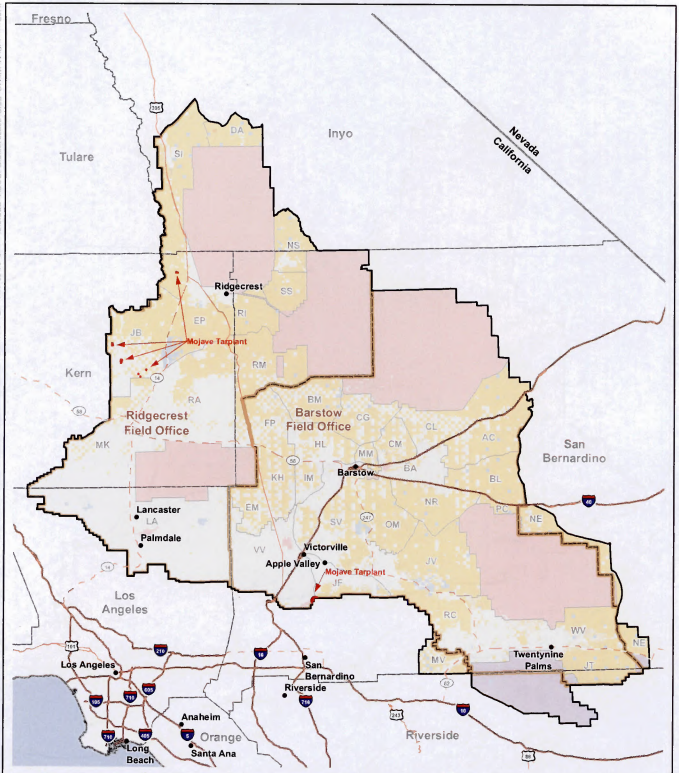
MK
Mojave Monkeyflower* Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-19
Mojave Monkeyflower Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000


Fresno
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Nevada
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San Bernardino
Los Angeles
Orange
Riverside
Ridgecrest
Mojave Tarplant
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Mojave Tarplant
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Long Beach
Santa Ana
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SV
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JF
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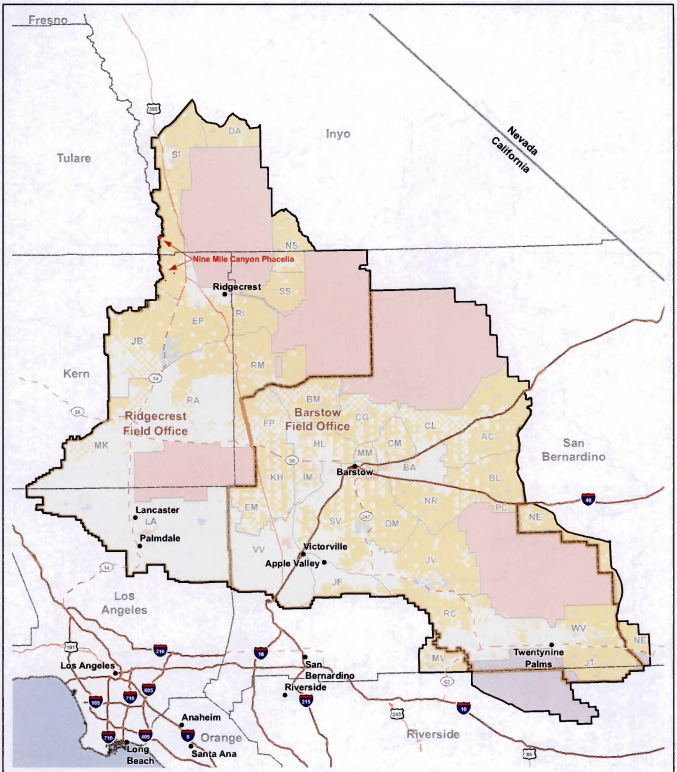
JT
Mojave Tarplant*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-20
Mojave Tarplant
Locations within the
WEMO Planning Area
Miles
Kilometers
1:1,750,000
N


Fresno
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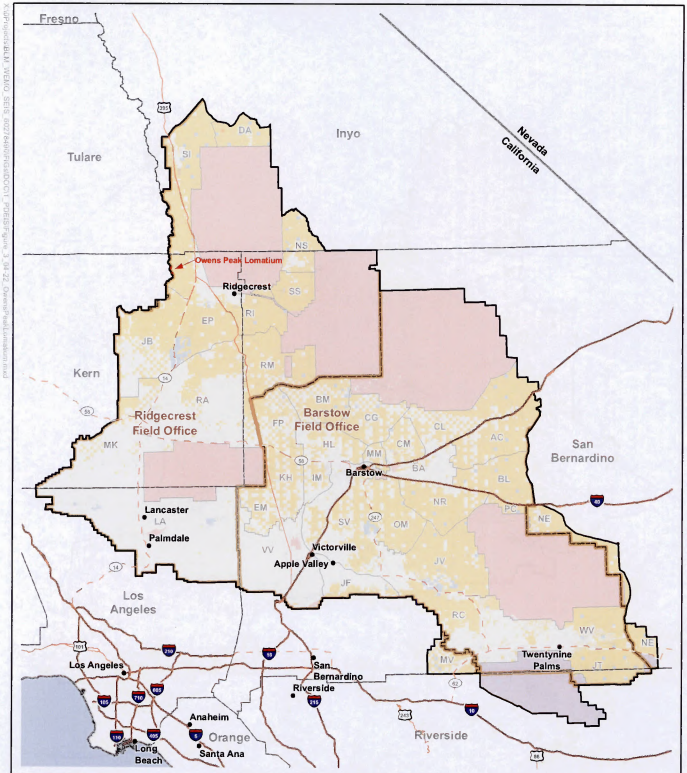
Nevada
California
San Bernardino
Los Angeles
Riverside
Orange
Nine Mile Canyon Phacelia
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
San Bernardino
Riverside
Los Angeles
Anaheim
Santa Ana
Long Beach
Nine Mile Canyon Phacelia*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-21
Nine Mile Canyon Phacelia Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000


Fresno
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Nevada
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Los Angeles
Riverside
Orange
Owens Peak Lomatium
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
Los Angeles
San Bernardino
Riverside
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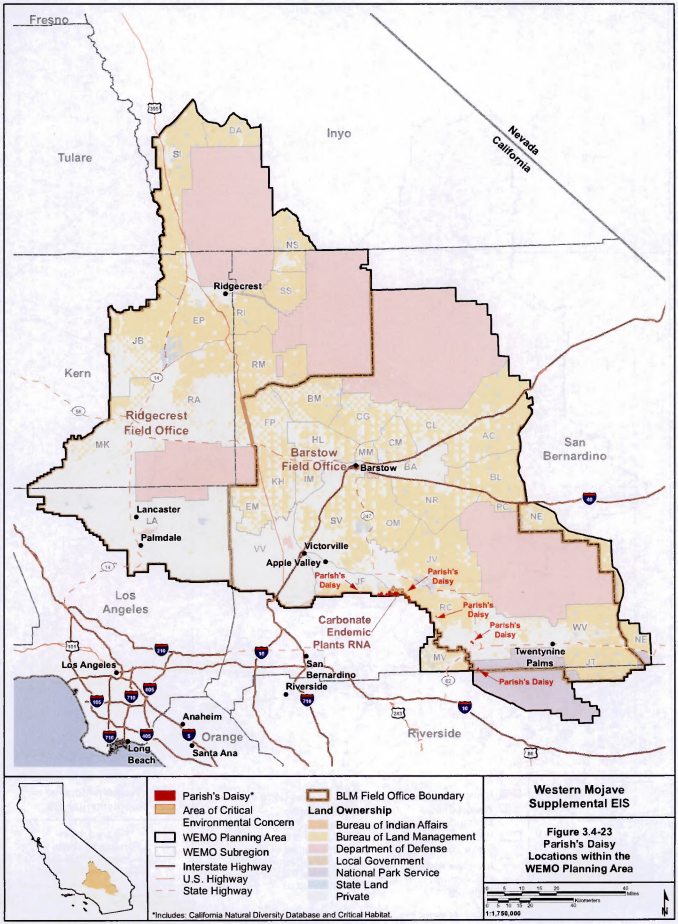
Owens Peak Lomatium*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-22
Owens Peak Lomatium Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000
N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Ridgecrest Field Office
Barstow Field Office
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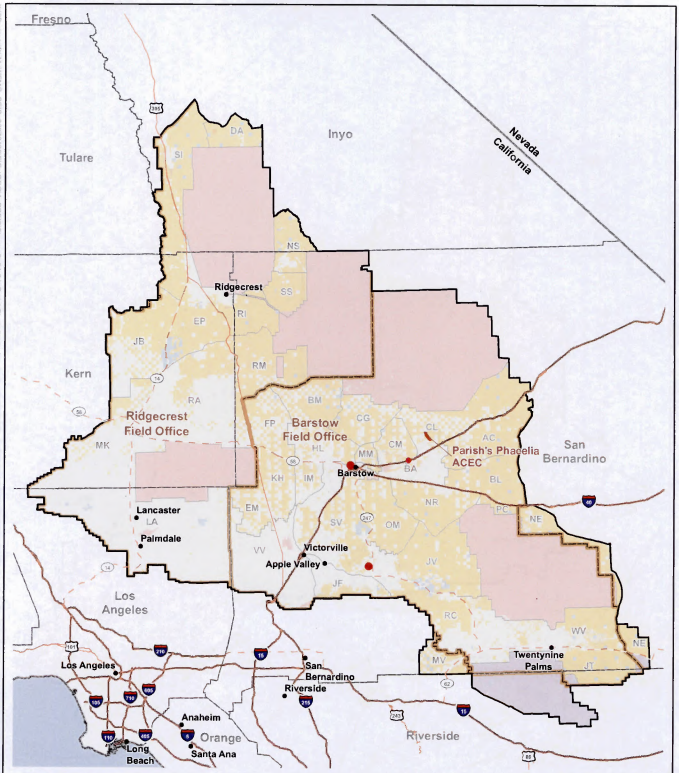
Apple Valley
Los Angeles
San Bernardino
Riverside
Anaheim
Santa Ana
Long Beach
Twentynine Palms
Carbonate Endemic Plants RNA
Parish's Daisy
Parish's Daisy*
Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database and Critical Habitat.
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-23
Parish's Daisy Locations within the WEMO Planning Area
1:1,750,000
Miles
Kilometers


Fresno
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Kern
Nevada
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Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Parish's Phacelia ACEC
Barstow
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Lancaster
Palmdale
Victorville
Apple Valley
Los Angeles
Los Angeles
San Bernardino
Riverside
Twentynine Palms
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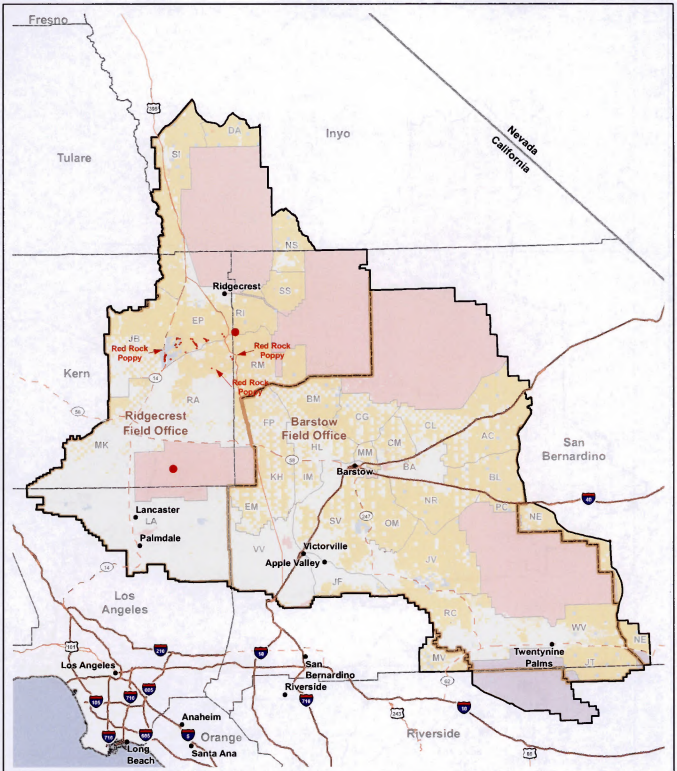
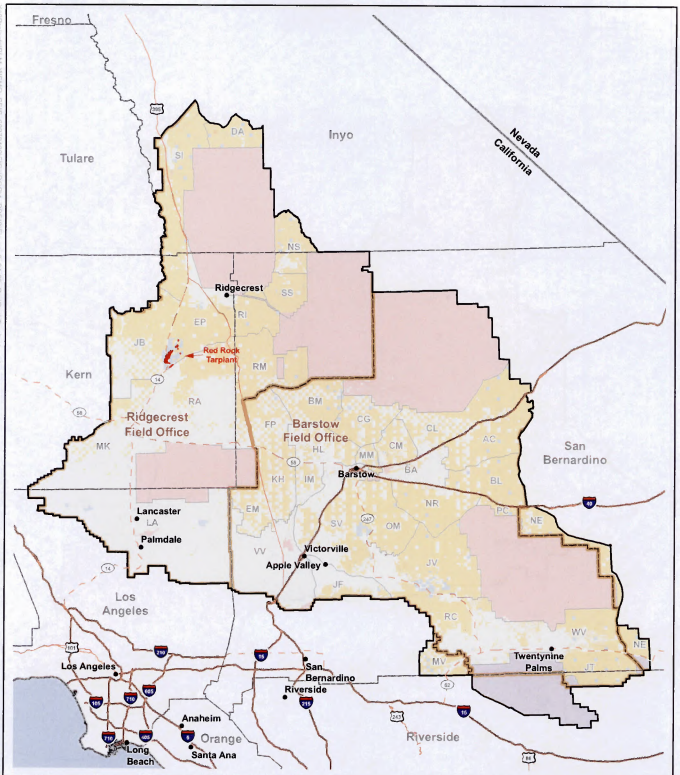
Parish's Phacelia*
Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-24
Parish's Phacelia Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000
N



Western Mojave Supplemental EIS

Figure 3.4-25
Red Rock Poppy Locations within the WEMO Planning Area



Red Rock Tarplant*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway

*Includes: California Natural Diversity Database.

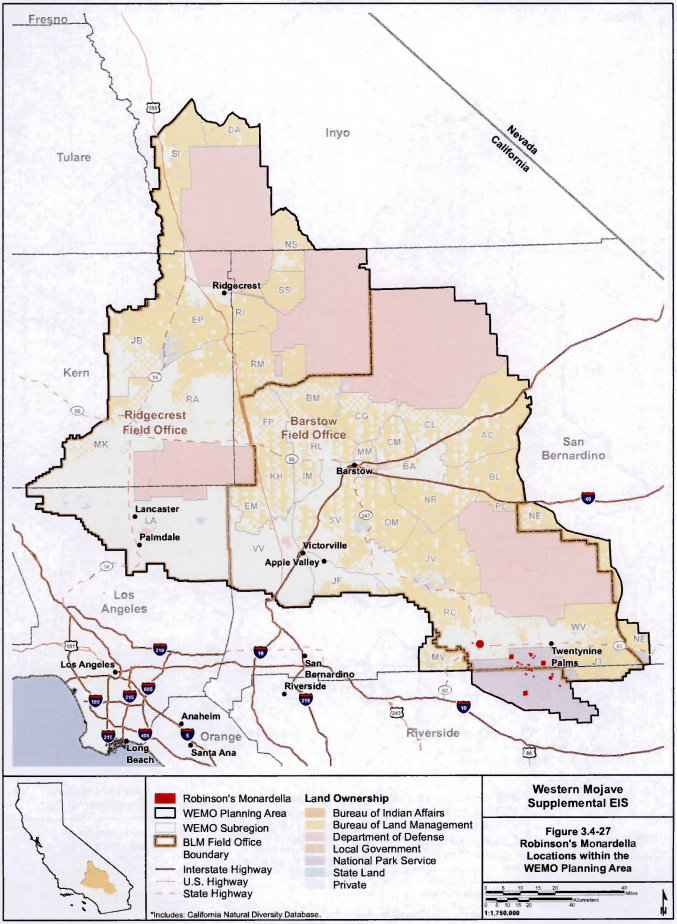
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private

Western Mojave Supplemental EIS

Figure 3.4-26
Red Rock Tarplant Locations within the WEMO Planning Area

0 5 10 15 20 25 Miles
0 5 10 15 20 25 30 40 Kilometers
1:1,750,000

N


Fresno
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Los Angeles
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Riverside
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
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Palmdale
Victorville
Apple Valley
Los Angeles
San Bernardino
Riverside
Anaheim
Long Beach
Santa Ana
Twentynine Palms
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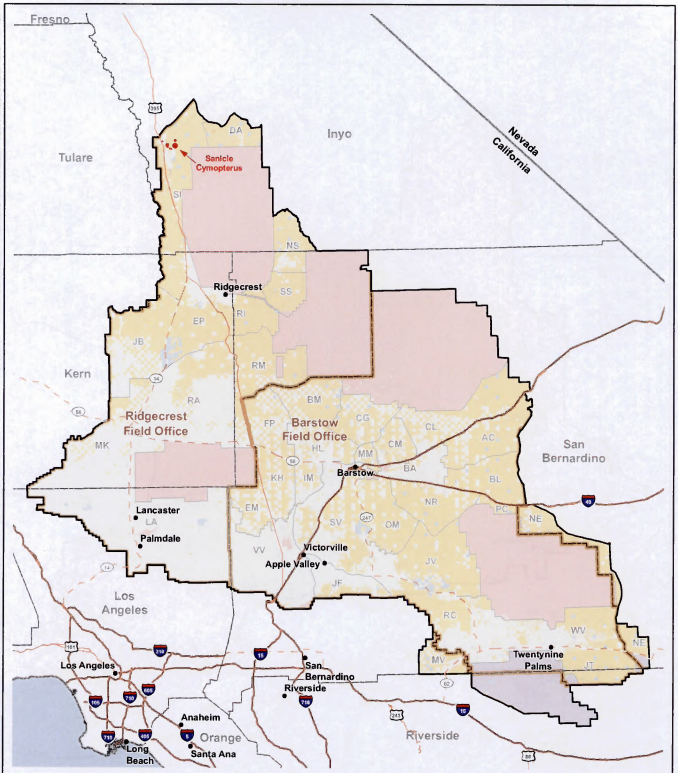
Robinson's Monardella
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
*Includes: California Natural Diversity Database.
Western Mojave Supplemental EIS
Figure 3.4-27
Robinson's Monardella Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000


Fresno
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Riverside
Sanicle Cymopterus
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Santa Ana
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RC
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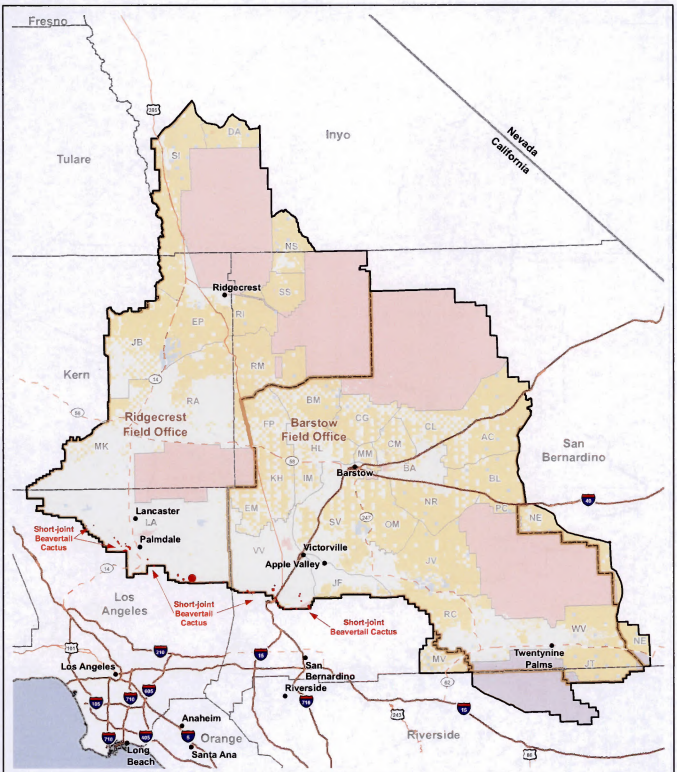
Sanicle Cymopterus*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-28
Sanicle Cymopterus Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000



Short-joint Beavertail Cactus*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway

*Includes: California Natural Diversity Database.

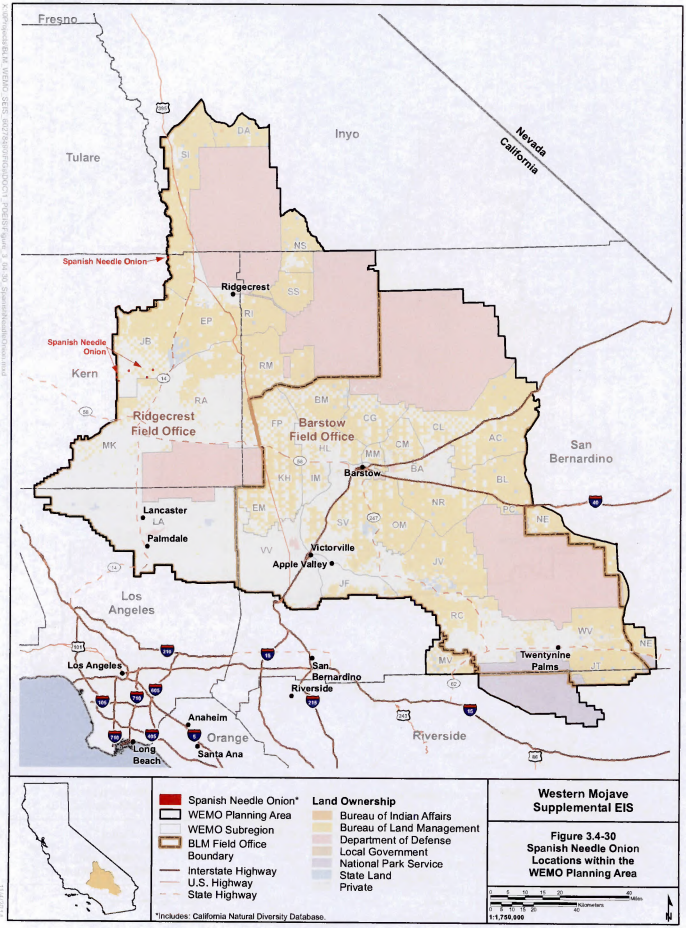
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private

Western Mojave Supplemental EIS

Figure 3.4-29
Short-joint Beavertail Cactus Locations within the WEMO Planning Area

0 5 10 15 20 40 Miles
0 5 10 15 20 40 Kilometers
1:1,750,000

N


Fresno
Tulare
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San Bernardino
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Riverside
Nevada
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Spanish Needle Onion
Spanish Needle Onion
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
Los Angeles
San Bernardino
Riverside
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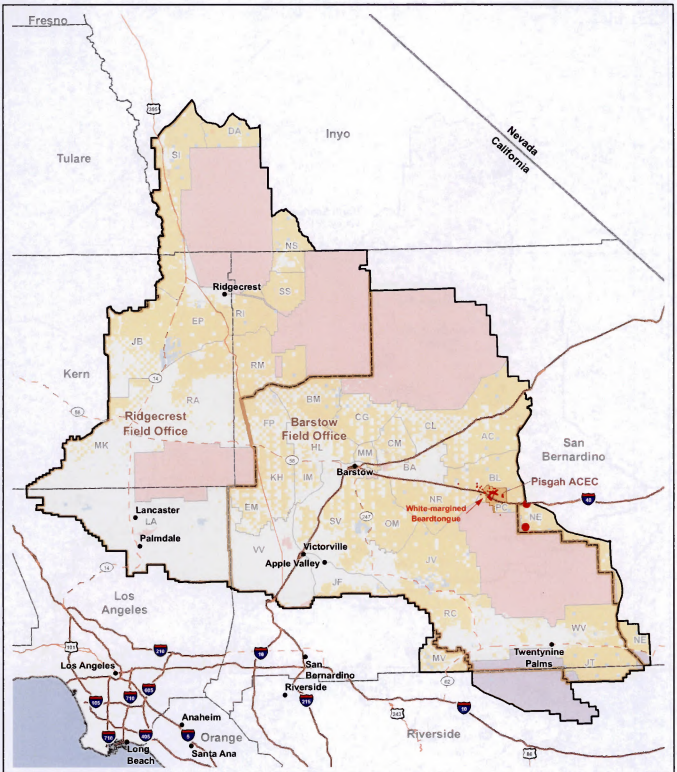
NP
JT
Spanish Needle Onion*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-30
Spanish Needle Onion Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000
N



White-margined Beardtongue*
Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.

BLM Field Office Boundary

Land Ownership

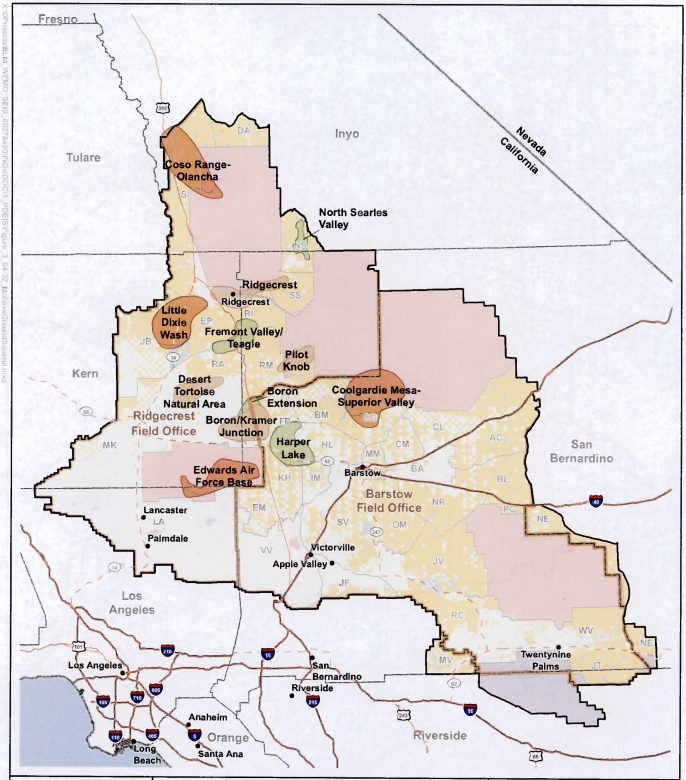
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private

Western Mojave Supplemental EIS

Figure 3.4-31
White-margined Beardtongue Locations within the WEMO Planning Area

0 5 10 15 20 40 Miles
0 5 10 15 20 40 Kilometers
1:1,750,000

N



Mohave Ground Squirrel Key Population Centers

- Core Areas
- Leitner Population
- Other Known Populations
- WEMO Planning Area
- WEMO Subregion
- BLM Field Office Boundary

Land Ownership

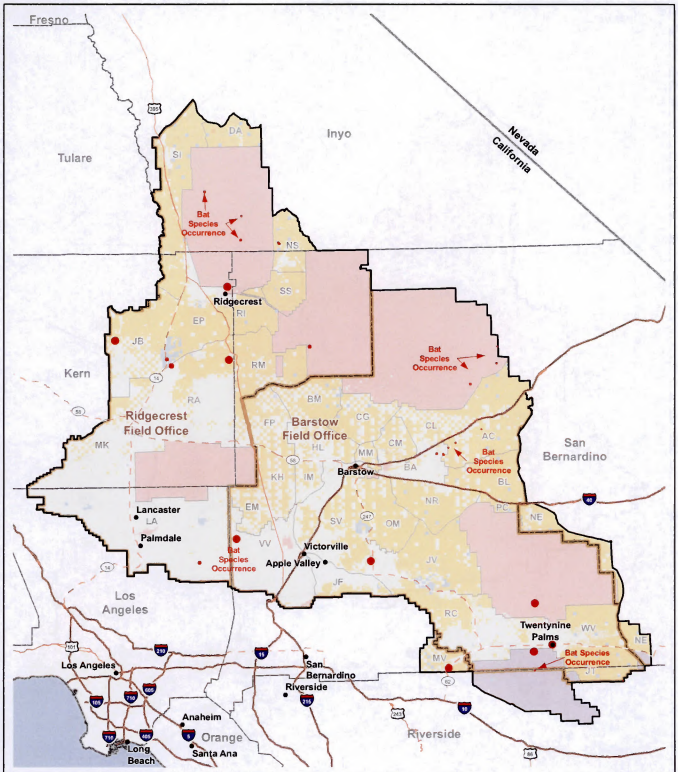
- Bureau of Indian Affairs
- Bureau of Land Management
- Department of Defense
- Local Government
- National Park Service
- State Land
- Private

Western Mojave Supplemental EIS

Figure 3.4-32
Mohave Ground Squirrel Locations within the WEMO Planning Area

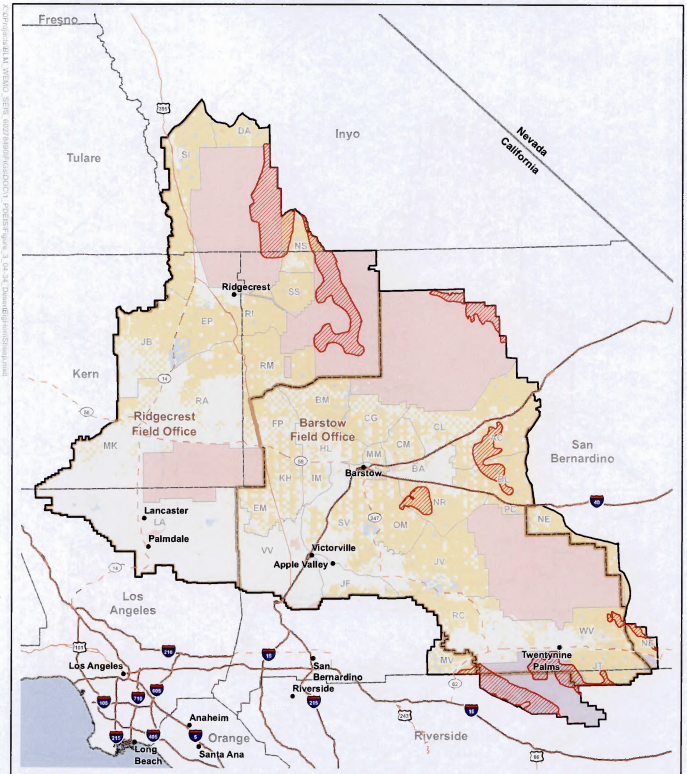
1:1,750,000

N



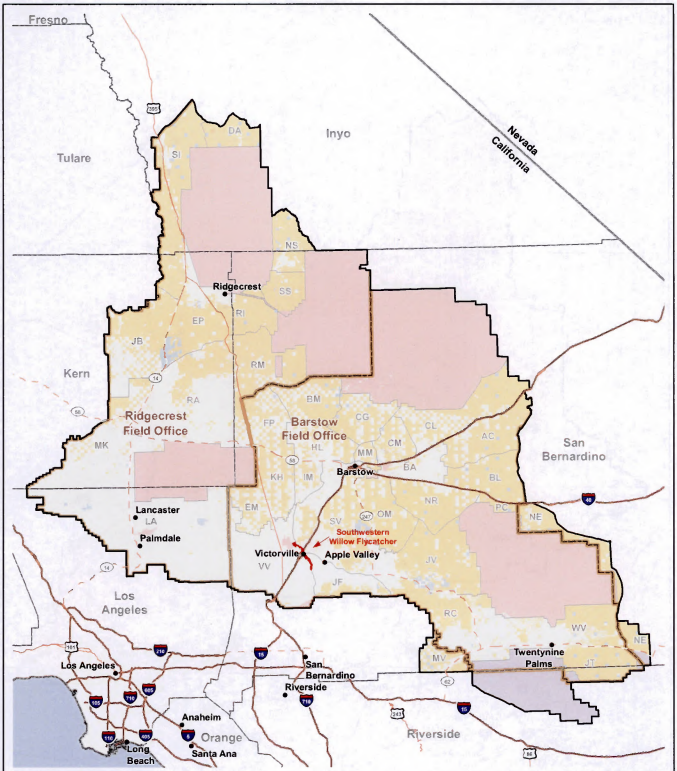
Western Mojave Supplemental EIS

Figure 3.4-33
Bat Species Locations within the WEMO Planning Area



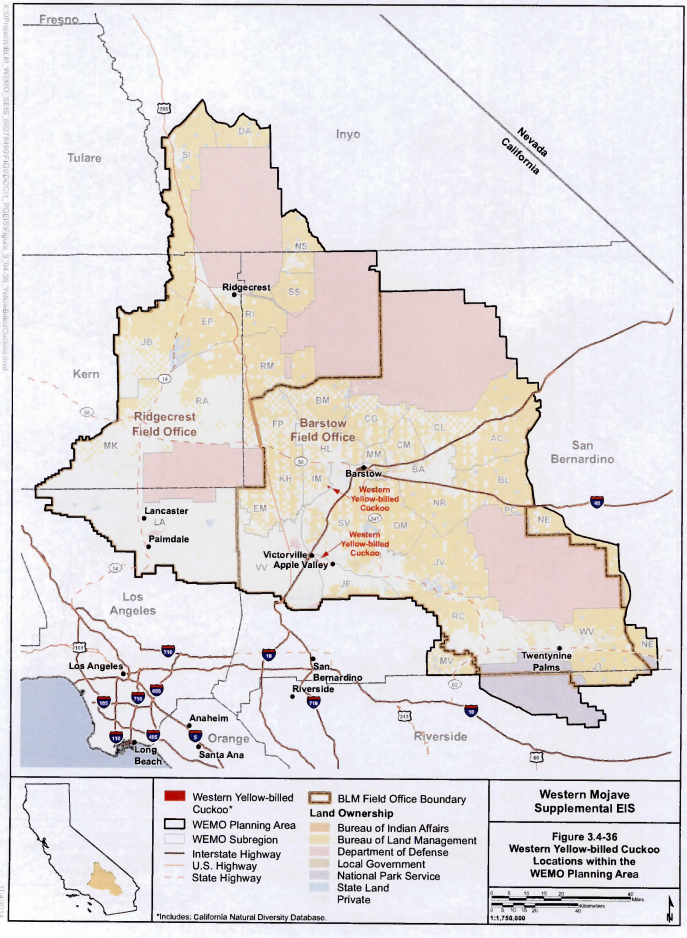
Western Mojave Supplemental EIS

Figure 3.4-34
Desert Bighorn Sheep Locations within the WEMO Planning Area



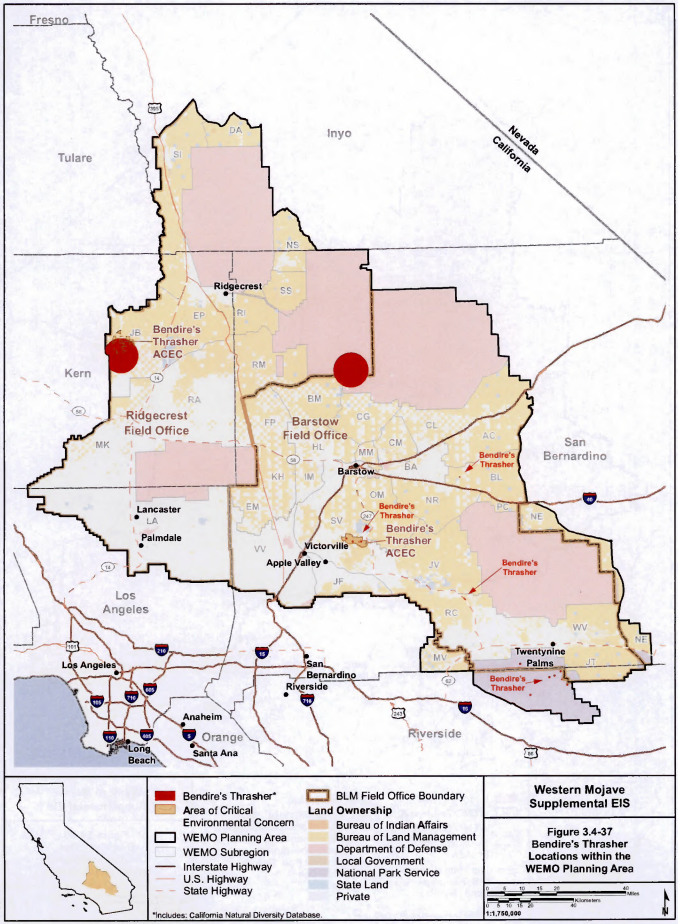
Western Mojave Supplemental EIS

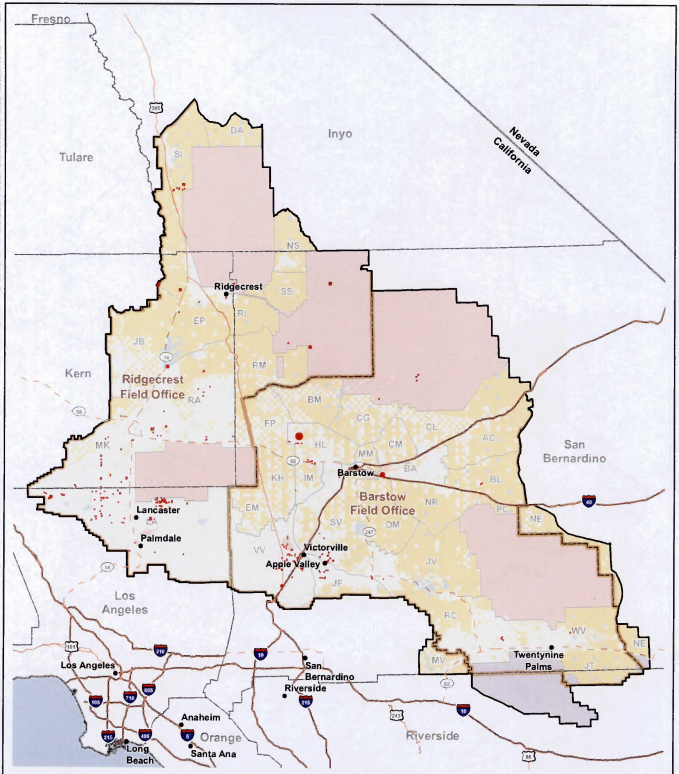
Figure 3.4-35
Southwestern Willow Flycatcher Locations within the WEMO Planning Area



Western Mojave Supplemental EIS

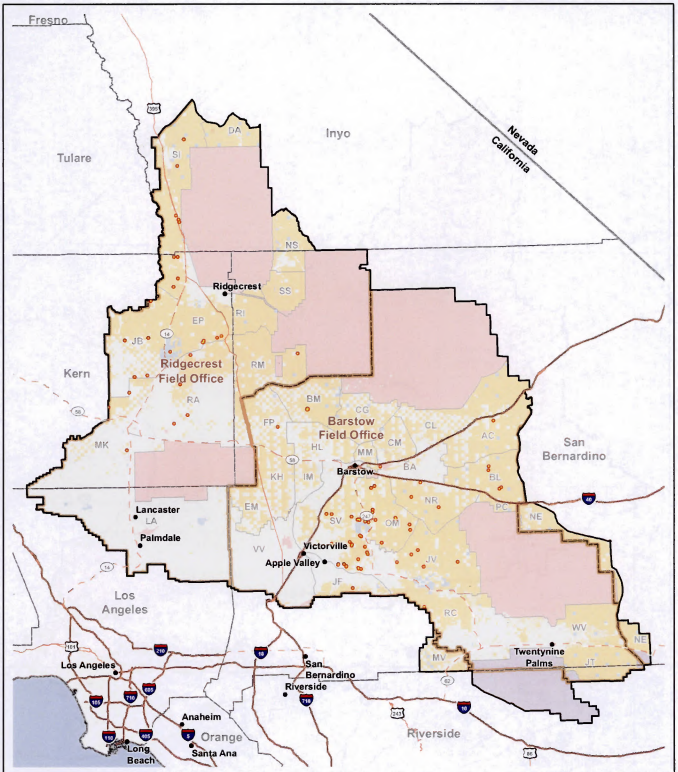
Figure 3.4-36
Western Yellow-billed Cuckoo Locations within the WEMO Planning Area

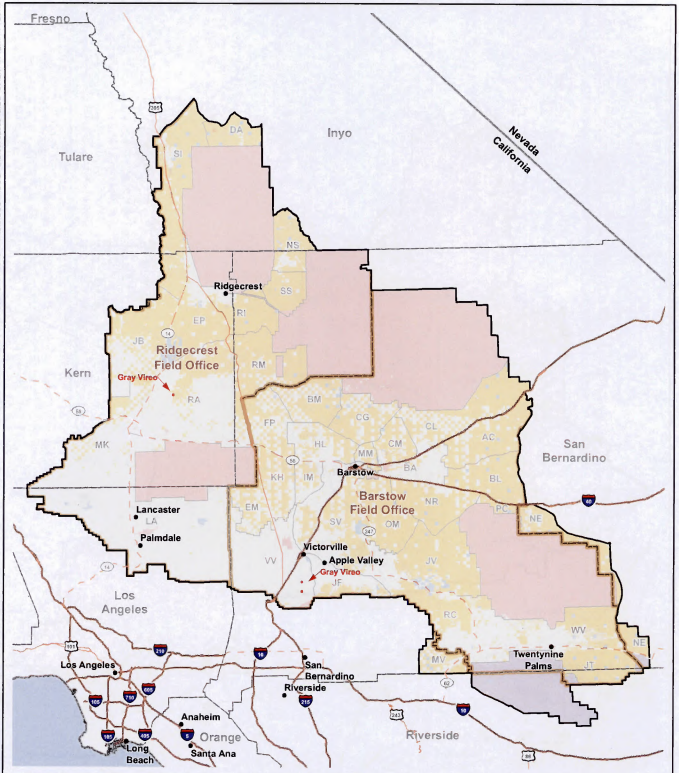

Fresno
Tulare
Kern
Inyo
Nevada
California
San Bernardino
Los Angeles
Riverside
Orange
Ridgecrest
Bendire's Thrasher ACEC
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Bendire's Thrasher
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Orange
Santa Ana
Long Beach
Bendire's Thrasher*
Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-37
Bendire's Thrasher Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000



Western Mojave Supplemental EIS

Figure 3.4-38
Burrowing Owl Locations within the WEMO Planning Area


Fresno
Tulare
Kern
Inyo
Nevada
California
San Bernardino
Los Angeles
Riverside
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
San Bernardino
Riverside
Twentynine Palms
Los Angeles
Anaheim
Orange
Santa Ana
Long Beach
Area within 1/4 mile of a Golden Eagle Nest
Area within 1/2 mile of a Golden Eagle Nest
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-39
Golden Eagle Locations within the WEMO Planning Area
1:1,750,000



Gray Vireo*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway

*Includes: California Natural Diversity Database.

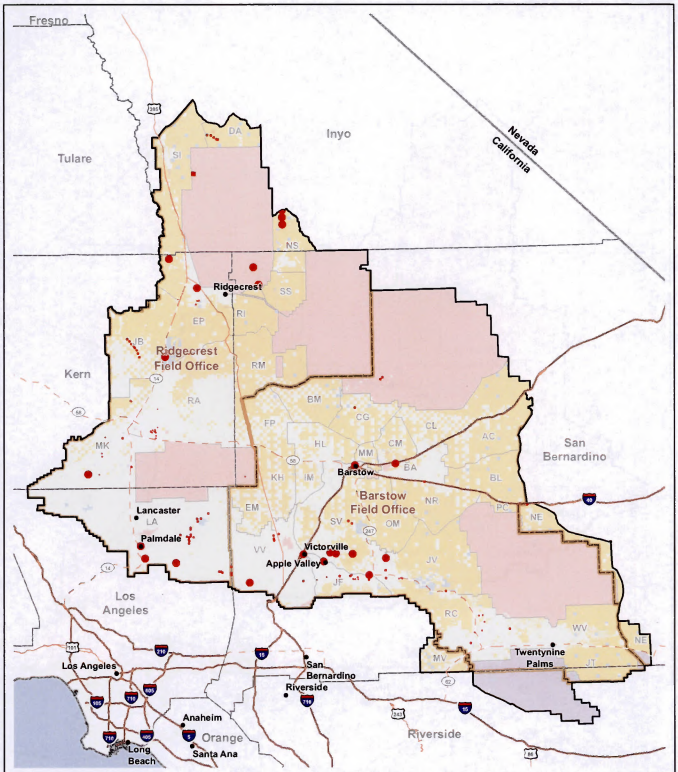
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private

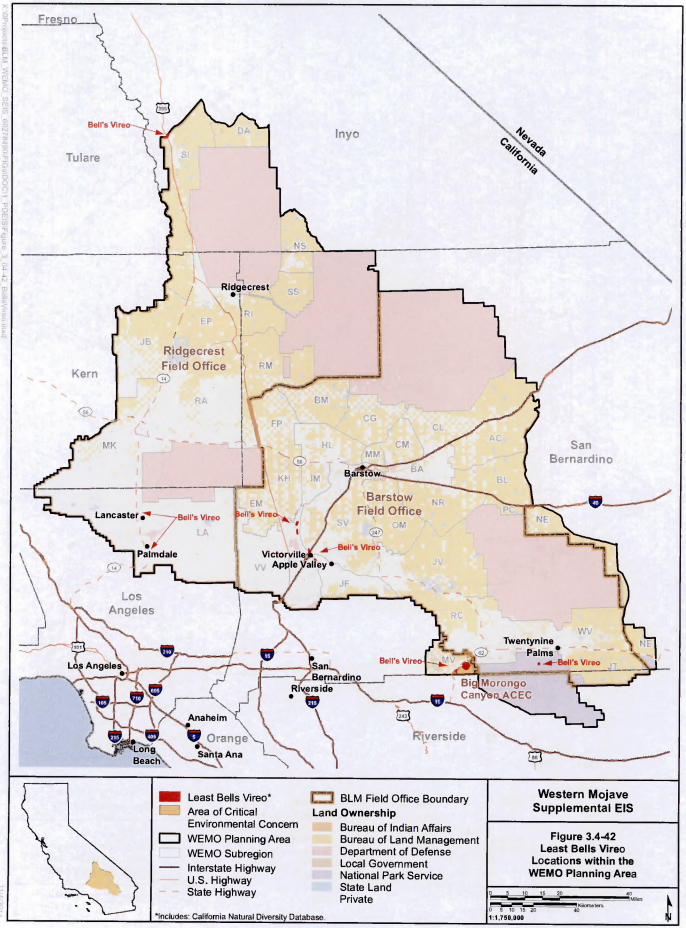
Western Mojave Supplemental EIS

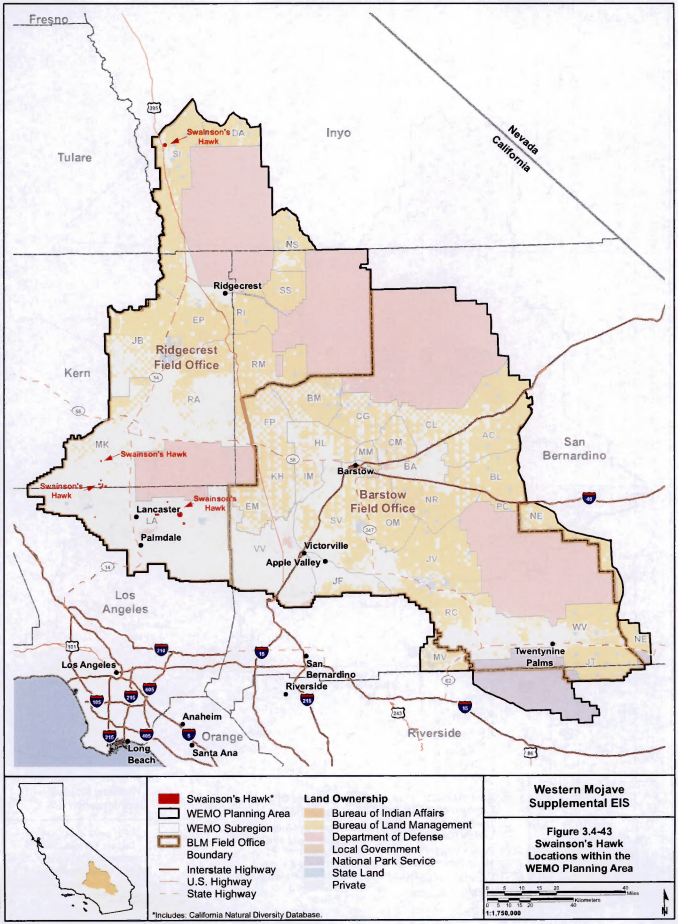
Figure 3.4-40
Gray Vireo Locations within the WEMO Planning Area

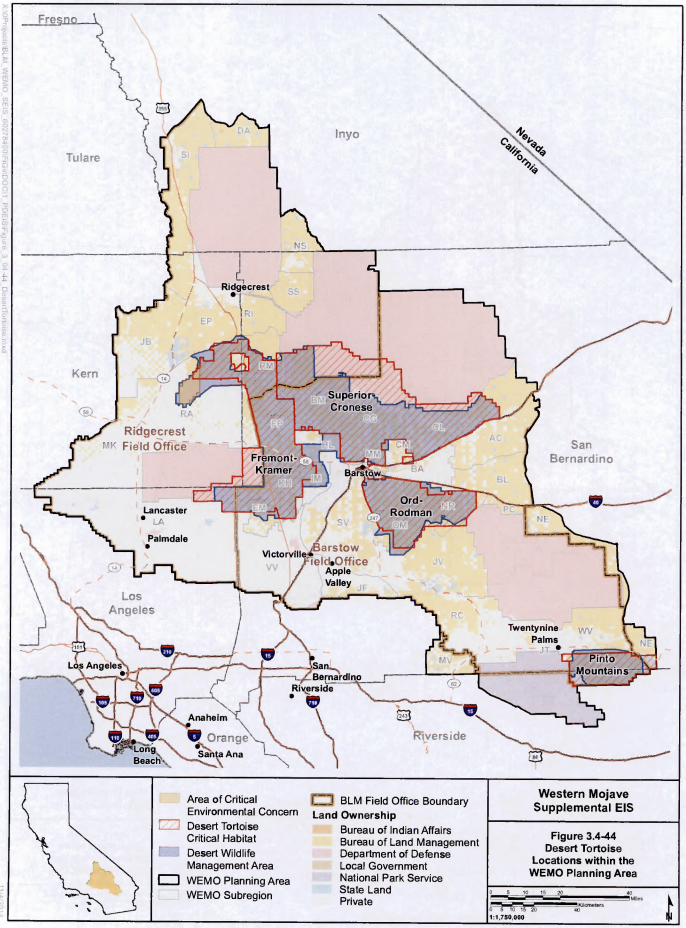
0 5 10 15 30 45 Miles
0 5 10 15 30 45 Kilometers
1:1,750,000

N


Fresno
Tulare
Kern
Inyo
Nevada
California
San Bernardino
Los Angeles
Riverside
Orange
Ridgecrest
Ridgecrest Field Office
Barstow
Barstow Field Office
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Santa Ana
Long Beach
LeConte's Thrasher*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-41
LeConte's Thrasher Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000

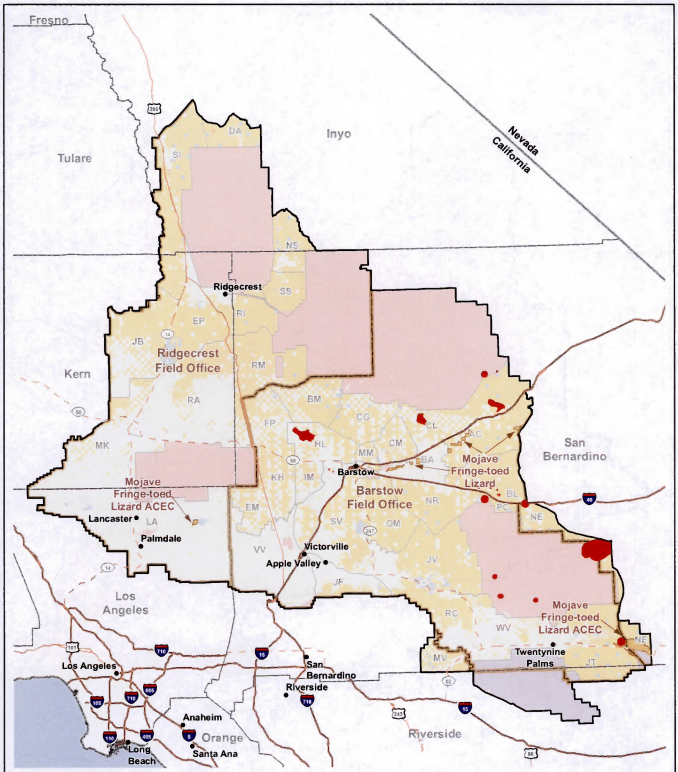

Fresno
Tulare
Kern
Inyo
Nevada
California
San Bernardino
Los Angeles
Orange
Riverside
Bell's Vireo
Ridgecrest
Ridgecrest Field Office
Barstow
Barstow Field Office
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
Big Morongo Canyon ACEC
Los Angeles
San Bernardino
Riverside
Anaheim
Santa Ana
Long Beach
Least Bells Vireo*
Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-42
Least Bells Vireo Locations within the WEMO Planning Area
1:1,750,000

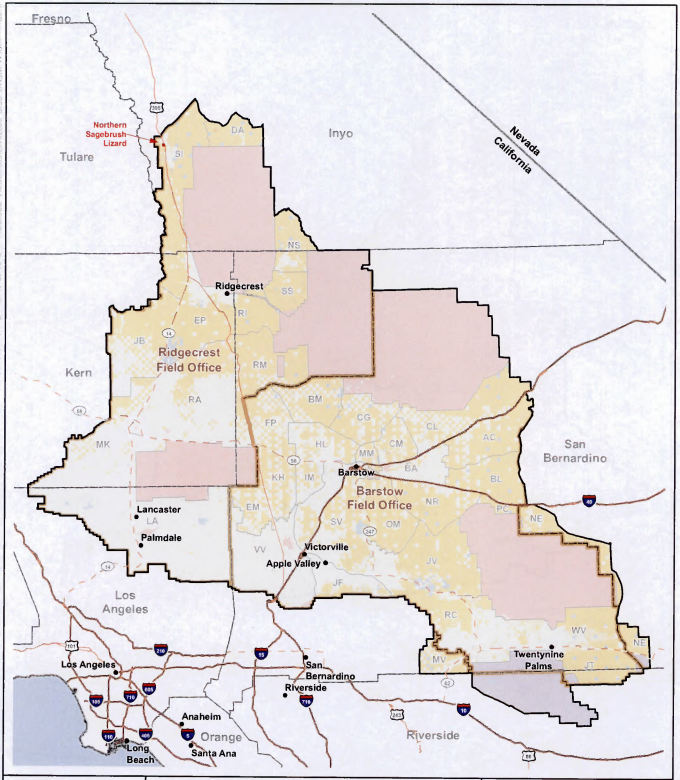

Fresno
Tulare
Kern
Inyo
Nevada
California
San Bernardino
Riverside
Los Angeles
Orange
Ridgecrest
Ridgecrest Field Office
Barstow
Barstow Field Office
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Santa Ana
Long Beach
Swainson's Hawk
Swainson's Hawk
Swainson's Hawk
Swainson's Hawk
Swainson's Hawk*
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-43
Swainson's Hawk Locations within the WEMO Planning Area
0 5 10 15 20 25 30 35 40 Miles
0 5 10 15 20 25 30 35 40 Kilometers
1:1,750,000
N

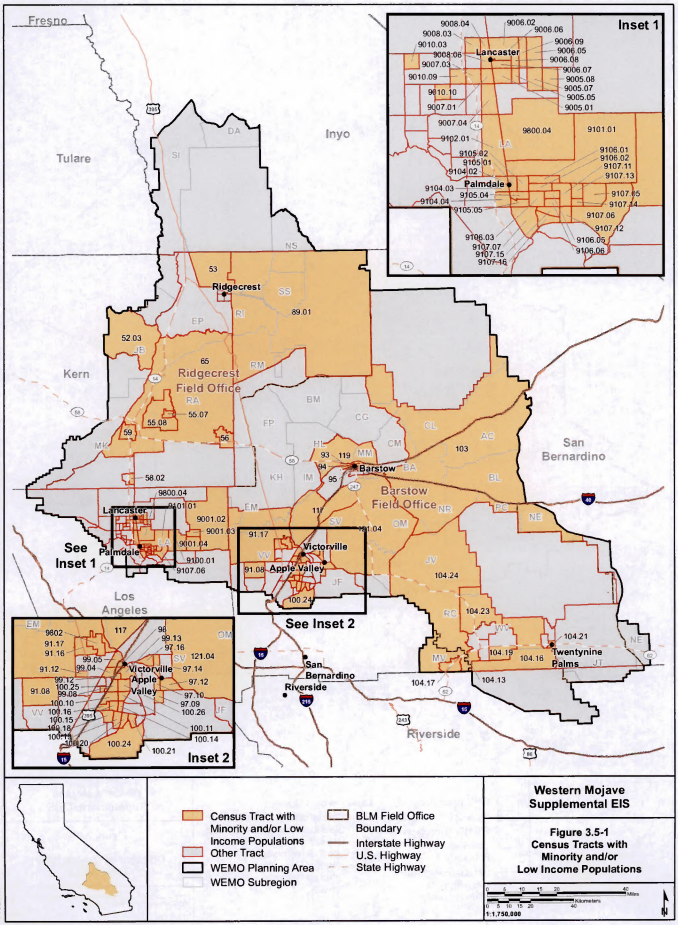


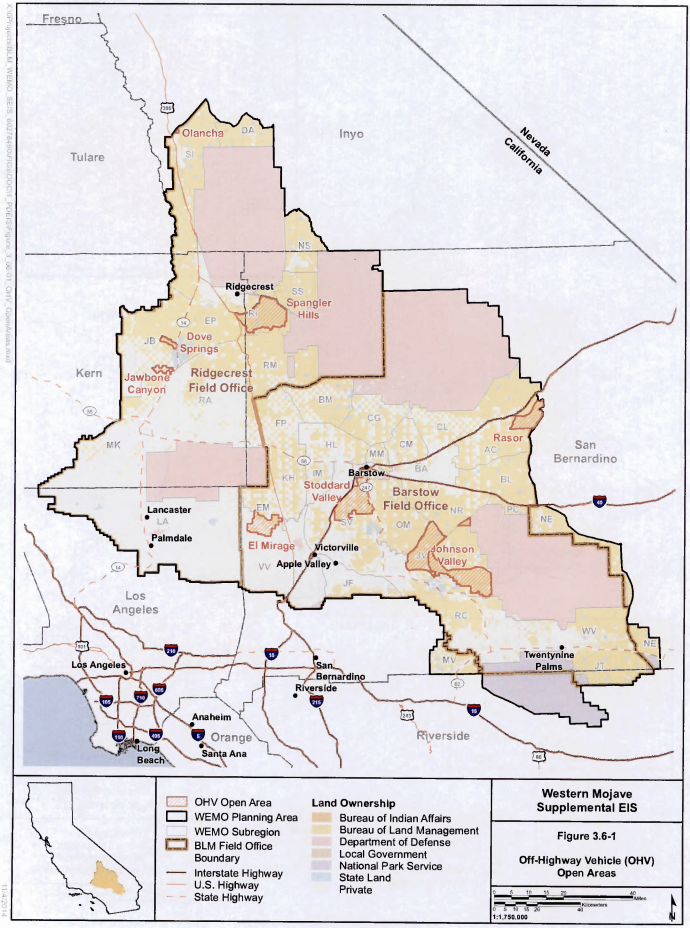
Western Mojave Supplemental EIS

Figure 3.4-44
Desert Tortoise Locations within the WEMO Planning Area


Fresno
Tulare
Kern
Inyo
Nevada
California
San Bernardino
Los Angeles
Riverside
Orange
Ridgecrest
Ridgecrest Field Office
Barstow
Barstow Field Office
Victorville
Apple Valley
Lancaster
Palmdale
Mojave Fringe-toed Lizard ACEC
Mojave Fringe-toed Lizard
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Orange
Santa Ana
Long Beach
Mojave Fringe-toed Lizard*
Area of Critical Environmental Concern
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-45
Mojave Fringe-toed Lizard Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000


Fresno
Northern Sagebrush Lizard
Tulare
Inyo
Nevada
California
Kern
San Bernardino
Ridgecrest
Ridgecrest Field Office
Barstow
Barstow Field Office
Lancaster
Palmdale
Victorville
Apple Valley
Los Angeles
Twentynine Palms
San Bernardino
Riverside
Anaheim
Orange
Santa Ana
Long Beach
Riverside
Northern Sagebrush Lizard*
WEMO Planning Area
WEMO Subregion
Interstate Highway
U.S. Highway
State Highway
*Includes: California Natural Diversity Database.
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.4-46
Northern Sagebrush Lizard Locations within the WEMO Planning Area
Miles
Kilometers
1:1,750,000
N


Inset 1
Lancaster
Palmdale
Fresno
Tulare
Inyo
Kern
San Bernardino
Riverside
Los Angeles
Ridgecrest
Ridgecrest Field Office
Barstow
Barstow Field Office
Victorville
Apple Valley
Twentynine Palms
San Bernardino
Riverside
See Inset 1
See Inset 2
Inset 2
Census Tract with Minority and/or Low Income Populations
Other Tract
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
Western Mojave Supplemental EIS
Figure 3.5-1
Census Tracts with Minority and/or Low Income Populations
1:1,750,000


Fresno
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Inyo
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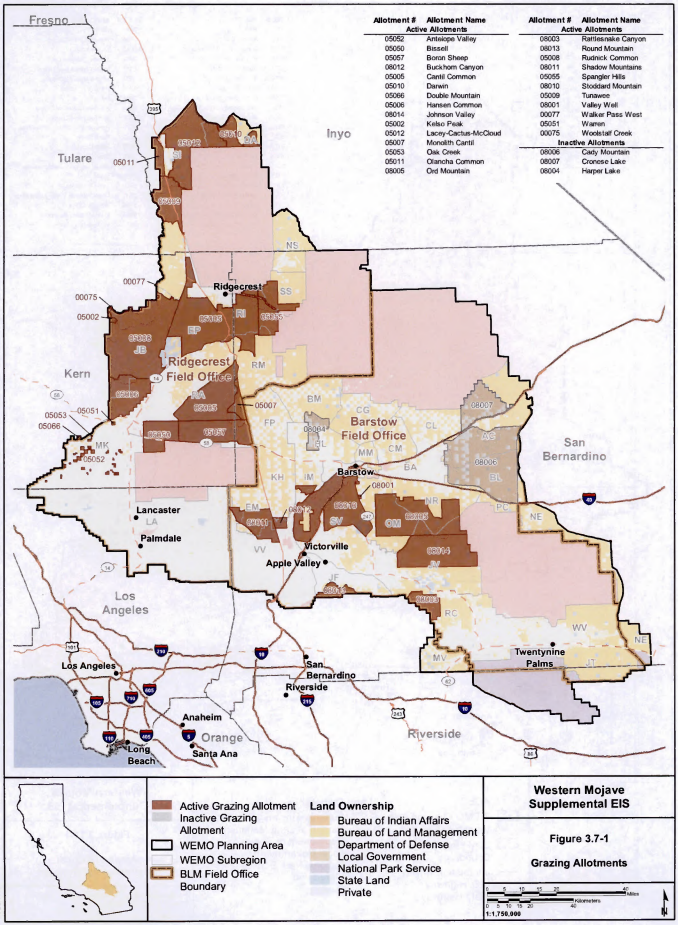
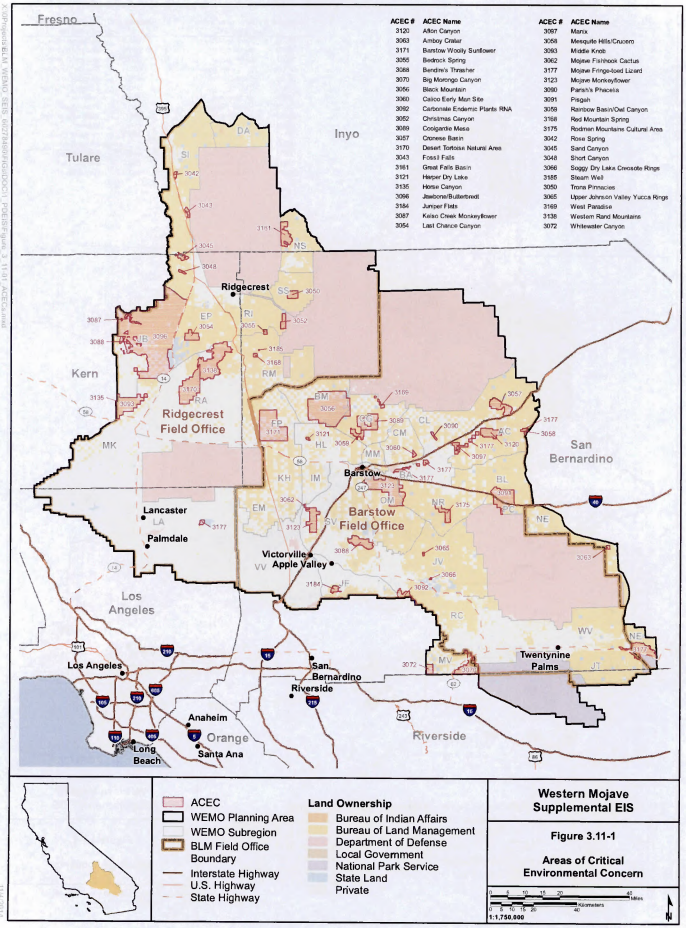
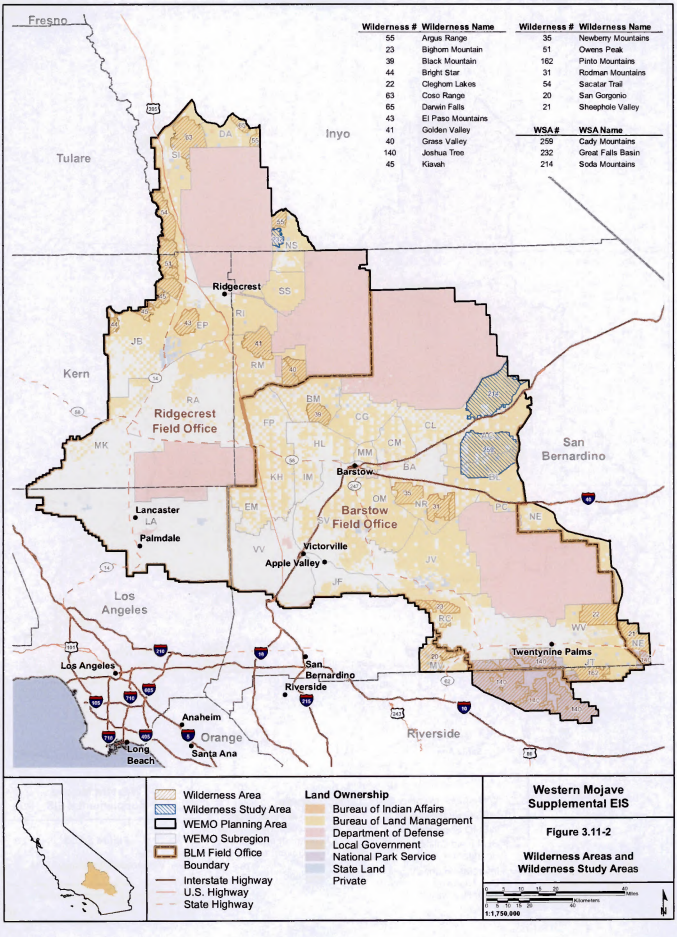
California
San Bernardino
Riverside
Los Angeles
Orange
Olancha
Ridgecrest
Ridgecrest Field Office
Spangler Hills
Dove Springs
Jawbone Canyon
Rasor
Barstow
Stoddard Valley
Barstow Field Office
Lancaster
Palmdale
El Mirage
Victorville
Apple Valley
Johnson Valley
Twentynine Palms
San Bernardino
Riverside
Los Angeles
Anaheim
Orange
Long Beach
Santa Ana
OHV Open Area
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.6-1
Off-Highway Vehicle (OHV) Open Areas
Miles
Kilometers
1:1,750,000


Fresno
Tulare
Kern
Inyo
San Bernardino
Los Angeles
Orange
Riverside
Ridgecrest Field Office
Barstow Field Office
Ridgecrest
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Los Angeles
San Bernardino
Riverside
Anaheim
Santa Ana
Long Beach
Twentynine Palms
Allotment # Allotment Name
Active Allotments
05052 Antelope Valley
05050 Bissell
05057 Boron Sheep
08012 Buckhorn Canyon
05005 Cantil Common
05010 Darwin
05066 Double Mountain
05006 Hansen Common
08014 Johnson Valley
05002 Kelso Peak
05012 Lacey-Cactus-McCloud
05007 Monolith Cantil
05053 Oak Creek
05011 Olancha Common
08005 Ord Mountain
08003 Rattlesnake Canyon
08013 Round Mountain
05008 Rudnick Common
08011 Shadow Mountains
05055 Spangler Hills
08010 Stoddard Mountain
05009 Tunawee
08001 Valley Well
00077 Walker Pass West
05051 Warren
00075 Wooleaf Creek
Inactive Allotments
08006 Cady Mountain
08007 Cronese Lake
08004 Harper Lake
Active Grazing Allotment
Inactive Grazing Allotment
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.7-1
Grazing Allotments
1:1,750,000



ACEC #	ACEC Name
3120	Afton Canyon
3063	Amboy Crater
3171	Barstow Woolly Sunflower
3055	Bedrock Spring
3088	Bendire's Thrasher
3070	Big Morongo Canyon
3056	Black Mountain
3060	Calico Early Man Site
3092	Carbonate Endemic Plants RNA
3052	Christmas Canyon
3089	Coolgardie Mesa
3057	Cronese Basin
3170	Desert Tortoise Natural Area
3043	Fossil Falls
3161	Great Falls Basin
3121	Harper Dry Lake
3135	Horse Canyon
3096	Jewelvine/Butterbredt
3184	Juniper Flats
3087	Kelso Creek Monkeyflower
3054	Last Chance Canyon

ACEC #	ACEC Name
3097	Manix
3058	Mesquite Hills/Crucero
3093	Middle Knob
3062	Mojave Fishhook Cactus
3177	Mojave Fringe-toed Lizard
3123	Mojave Monkeyflower
3090	Parish's Phacelia
3091	Pisgah
3059	Rainbow Basin/Owl Canyon
3168	Red Mountain Spring
3175	Rodman Mountains Cultural Area
3042	Rose Spring
3045	Sand Canyon
3048	Short Canyon
3066	Soggy Dry Lake Cresotte Rings
3185	Steam Well
3050	Trona Pinnacles
3065	Upper Johnson Valley Yucca Rings
3169	West Paradise
3138	Western Rand Mountains
3072	Whitewater Canyon


Fresno
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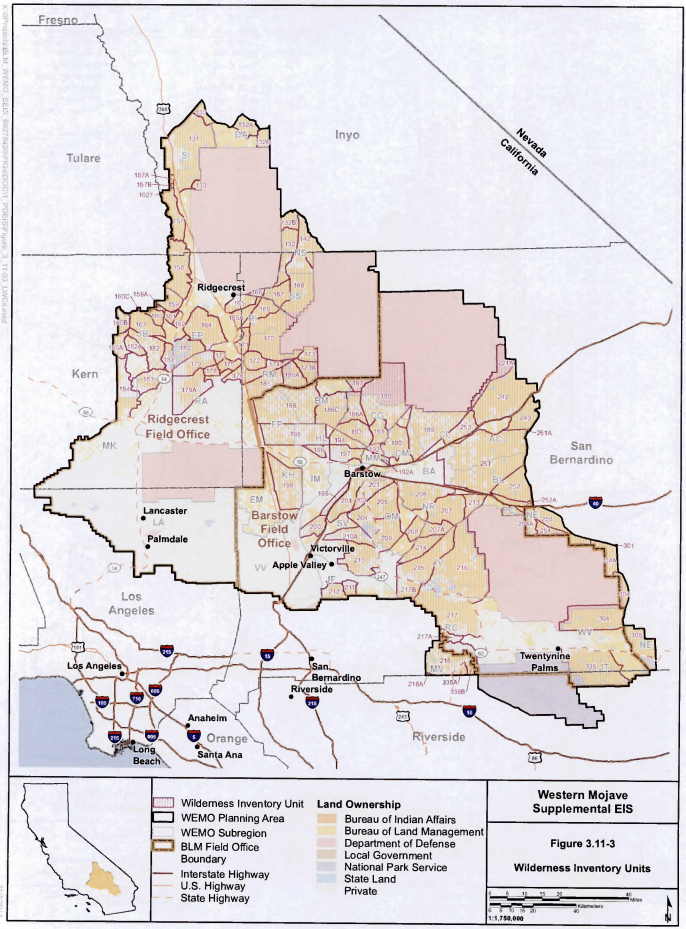
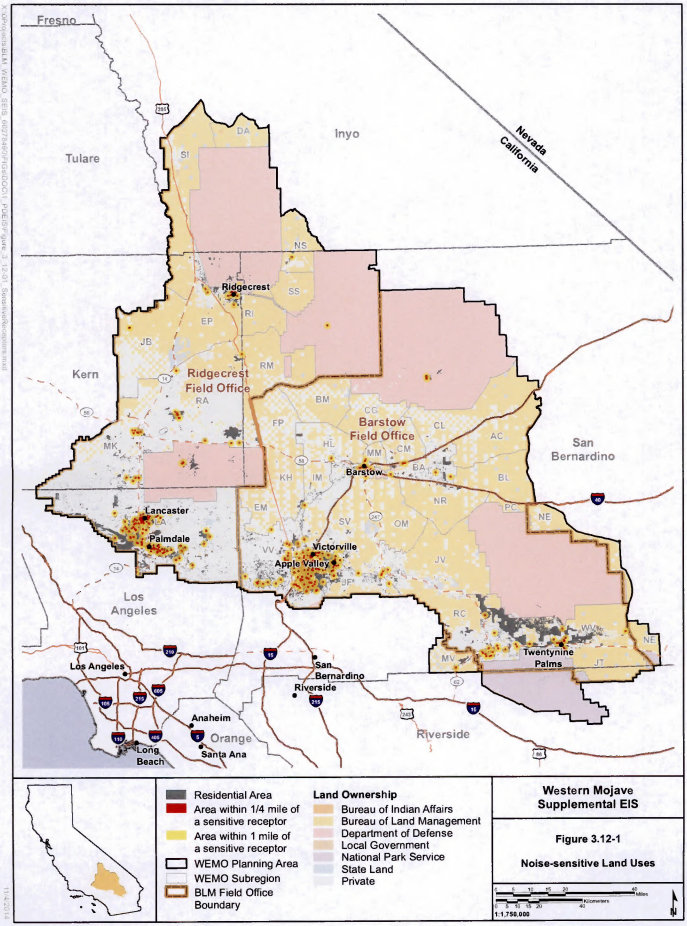
Ridgecrest
Ridgecrest Field Office
Barstow
Barstow Field Office
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Orange
Santa Ana
Long Beach
Wilderness # Wilderness Name
55 Argus Range
23 Bighorn Mountain
39 Black Mountain
44 Bright Star
22 Cleghorn Lakes
63 Coso Range
65 Darwin Falls
43 El Paso Mountains
41 Golden Valley
40 Grass Valley
140 Joshua Tree
45 Kiavah
Wilderness # Wilderness Name
35 Newberry Mountains
51 Owens Peak
162 Pinto Mountains
31 Rodman Mountains
54 Sacatar Trail
20 San Gorgonio
21 Sheephole Valley
WSA # WSA Name
259 Cady Mountains
232 Great Falls Basin
214 Soda Mountains
Wilderness Area
Wilderness Study Area
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.11-2
Wilderness Areas and Wilderness Study Areas
1:1,750,000


Fresno
Tulare
Kern
Inyo
Nevada
California
San Bernardino
Riverside
Los Angeles
Orange
Ridgecrest
Ridgecrest Field Office
Barstow
Barstow Field Office
Victorville
Apple Valley
Lancaster
Palmdale
Los Angeles
San Bernardino
Riverside
Anaheim
Orange
Santa Ana
Long Beach
Twentynine Palms
Wilderness Inventory Unit
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Interstate Highway
U.S. Highway
State Highway
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.11-3
Wilderness Inventory Units
Miles
Kilometers
1:1,750,000


Fresno
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Nevada
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Los Angeles
Orange
Riverside
Ridgecrest
Ridgecrest Field Office
Barstow Field Office
Barstow
Lancaster
Palmdale
Victorville
Apple Valley
Twentynine Palms
Los Angeles
San Bernardino
Riverside
Anaheim
Santa Ana
Long Beach
DA
SI
NS
SS
RI
EP
JB
RM
RA
BM
CG
FP
CL
AC
HL
MM
CM
MK
KH
IM
BA
BL
NR
PC
NE
EM
SV
OM
VV
JV
JF
RC
WV
MV
JT
Residential Area
Area within 1/4 mile of a sensitive receptor
Area within 1 mile of a sensitive receptor
WEMO Planning Area
WEMO Subregion
BLM Field Office Boundary
Land Ownership
Bureau of Indian Affairs
Bureau of Land Management
Department of Defense
Local Government
National Park Service
State Land
Private
Western Mojave Supplemental EIS
Figure 3.12-1
Noise-sensitive Land Uses
1:1,750,000

APPENDIX A

SCOPING REPORT

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WEST MOJAVE ROUTE NETWORK PROJECT

Scoping Report

U.S. Department of the Interior
Bureau of Land Management

California Desert District Office
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

June 2012

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Appendix C Scoping Comments C-1

ACRONYMS AND ABBREVIATIONS

ACEC	Area of Critical Environmental Concern
BLM	Bureau of Land Management
CAPA	Collaborative Access Planning Area
CDCA	California Desert Conservation Area
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DAC	Desert Advisory Council
EA	Environmental Assessment
EIS	Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
GIS	Geographic Information System
NEPA	National Environmental Policy Act
NOA	Notice of Availability
NOI	Notice of Intent
OHV	Off-highway Vehicle
ROD	Record of Decision
TMA	Travel Management Area
U.S.	United States
WEMO	West Mojave
WRNPS	West Mojave Route Network Project Subgroup

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1.0 INTRODUCTION

In compliance with the National Environmental Policy Act of 1969 (NEPA), as amended, and the Federal Land Policy and Management Act of 1976 (FLPMA), as amended, the Bureau of Land Management (BLM) California Desert District intends to prepare an Environmental Impact Statement (EIS) to amend the West Mojave (WEMO) Plan and the Motorized Vehicle Access Element of the California Desert Conservation Area (CDCA) Plan (referred to as the WEMO Route Network Project [Project]). This document summarizes the issues identified during the Project's scoping period.

The WEMO Project planning area includes over 3.2 million acres of public lands administered by the BLM, California Desert District, in the western portion of the Mojave Desert in southern California. The area is part of the CDCA, which was created by Congress with the passage of the FLPMA, and is managed according to the 1980 CDCA Plan. The WEMO Project planning area is located northeast of the Los Angeles metropolitan area and covers portions of Los Angeles, Inyo, Kern and San Bernardino Counties (Map 1). The northwestern portion is under the jurisdiction of the BLM's Ridgecrest Field Office, while the BLM's Barstow Field Office administers most of the remainder. The BLM's Needles and Palm Springs Field Offices administer very small acreages within the WEMO Project planning area.

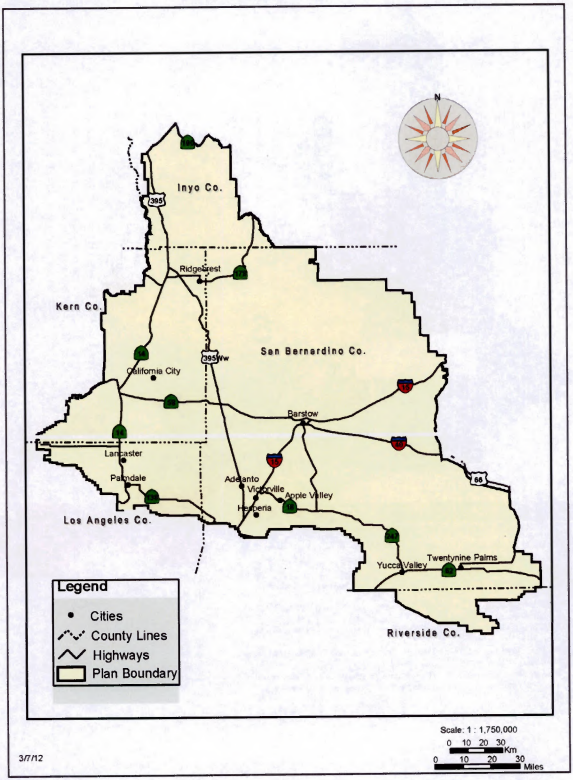
The 1980 CDCA Plan included 12 plan elements for managing over 25 million acres of public land resources and resource uses in southern California, including a Motorized Vehicle Access Element. The Motorized Vehicle Access Element identified management guidelines and objectives for access and vehicular use in the CDCA. Amended numerous times after adopted, BLM approved a comprehensive amendment to the 1980 CDCA Plan in 2006. The 2006 WEMO Record of Decision (ROD) approved the amendment modifying the motorized vehicle management decisions in the WEMO planning area of the CDCA, designating 5,098 miles of motorized vehicle routes without changing the language in the 1980 CDCA Plan. The CDCA Plan contains language that has been judicially determined to restrict motorized routes to those that existed in 1980. A lawsuit challenged the 2006 WEMO ROD's route designation process and in January 2011, the U.S. District Court for the Northern District of California remanded in part the 2006 WEMO ROD to the BLM. The Court directed BLM to amend the CDCA Plan and revise its decision on route designation in the WEMO area by March 13, 2014.

The WEMO Project will look at alternatives for amending the Motorized Vehicle Access Element of the CDCA Plan and alternative processes for route designation in eight Travel Management Areas (TMAs). Updated language in the Motorized Vehicle Access Element will more clearly describe management of motorized vehicle use in the planning area. Ultimately, the BLM will develop an EIS to amend the CDCA Plan and eight travel management plans for each of the TMAs, which will address the travel needs for all resource management programs on BLM-administered land. Table 1 lists the subregions and identifies the general location of the eight TMAs (Map 2) that will be addressed in this effort.

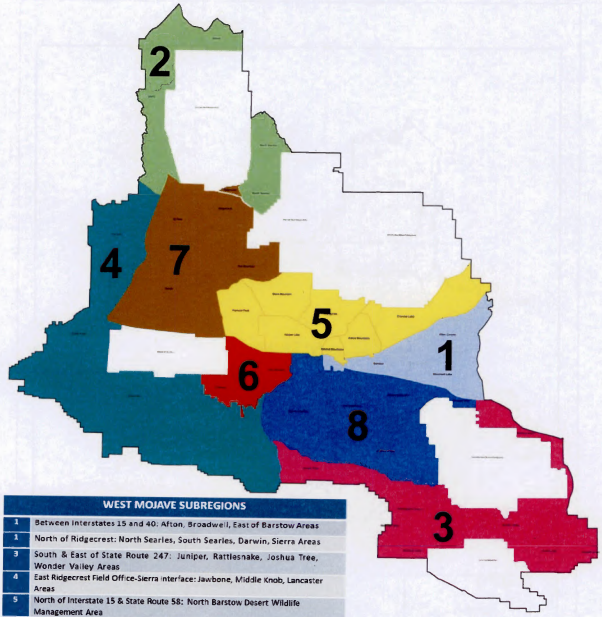
Table 1. West Mojave Project Travel Management Areas

Travel Management Area	Subregions and General Location
1	Broadwell Lake, Afton Canyon, and East of Barstow signing subregions
2	Sierras, Darwin, and North and South Searles signing sub-regions
3	Juniper, Rattlesnake, Morongo, Wonder Valley, and Joshua Tree signing sub-regions
4	Jawbone, Middle Knob and Lancaster signing sub-regions
5	West Mojave North Barstow Desert Wildlife Management Area signing sub-region north of Interstate-15 and State Route 58
6	Mirage (including Edwards Bowl area), Fremont, and Iron Mountain signing sub-regions south of State Route 58
7	Ridgecrest, El Paso, Rands and Red Mountain signing sub-regions
8	Lands adjacent to Stoddard and Johnson Off-highway Vehicle areas, and other signing sub-regions south of Interstate-40 and north of State Route 247 including east of Interstate-15

Map 1. West Mojave Planning Area



Map 2. Travel Management Areas in the West Mojave Planning Area



WEST MOJAVE SUBREGIONS	
2	Between Interstates 15 and 40: Afton, Broadwell, East of Barstow Areas
1	North of Ridgecrest: North Searles, South Searles, Darwin, Sierra Areas
3	South & East of State Route 247: Juniper, Rattlesnake, Joshua Tree, Wonder Valley Areas
4	East Ridgecrest Field Office-Sierra Interface: Jawbone, Middle Knob, Lancaster Areas
5	North of Interstate 15 & State Route 58: North Barstow Desert Wildlife Management Area
6	South of State Route 58 & West of Interstate 15: El Mirage, Kramer Hills, Iron Mtn Areas
7	Central Ridgecrest Field Office: Ridgecrest, El Paso, Red Mountain, Rand Mountains Areas
8	South of Interstate 40 & East of Interstate-15: Pisgah, Ords, Newberry and Rodman Mountains, and adjacent to Johnson Valley and Stoddard Valley

1.1 Purpose and Need for the West Mojave Route Network Project

The purpose of the WEMO Project is to amend the WEMO Plan and the Motorized Vehicle Access Element of the CDCA, pursuant to the 2011 Court Order remanding portions of the 2006 WEMO ROD. The WEMO Project EIS will form the framework for route designation in the WEMO Project planning area, consistent with the rest of the WEMO Plan. The plan amendment will address inconsistencies in the language between the CDCA and the WEMO Plan that was one of the subjects of the Court Order. In addition, the BLM is preparing eight travel management plans to designate specific routes in various portions of the WEMO Project planning area and implement the route network.

1.2 Planning Criteria

The BLM identified the following preliminary planning criteria that will help guide the development of the alternatives and NEPA analysis. The planning criteria take into consideration applicable law, regulation, and policy, and will apply throughout the planning process.

- The plan amendment will comply with FLPMA, NEPA, and all other applicable laws, regulations, and policies.
- For program-specific guidance for decisions at the land use planning level, the process will follow the BLM's policies in the Land Use Planning Handbook, H–1601–1 and Manual Section 1626, Travel and Transportation Management.
- Public participation and collaboration will be an integral part of the planning process.
- The BLM will strive to make decisions in the plan compatible with the existing plans and policies of adjacent local, State, and Federal agencies and local American Indian Tribes, as long as the decisions are consistent with the purposes, policies, and programs of Federal law and regulations applicable to public lands.
- The plan amendment will incorporate, where applicable and appropriate, management decisions brought forward from existing planning documents.
- The BLM will work collaboratively with Cooperating Agencies and all other interested groups, agencies, and individuals.
- Geographic Information System (GIS) and metadata information will meet Federal Geographic Data Committee standards, as required by Executive Order 12906. All other applicable BLM data standards will also be followed.
- The planning process will provide for ongoing consultation with American Indian Tribes and strategies for protecting recognized traditional uses, e.g., gathering of traditionally used plant materials.
- The plan amendment will focus on developing language for the WEMO Project planning area that conforms to the goals of the Motorized Vehicle Access Element of the CDCA Plan as described in the 1982 Plan Amendment #3.

2.0 SCOPING PROCESS

Scoping is required under NEPA as defined in Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] 1500–1508). The BLM NEPA Handbook (H-1790-1) and the BLM Land Use Planning Handbook (H-1601-1) provide additional guidance and direction on scoping as part of the NEPA and planning process.

2.1 Purpose of Public and Agency Scoping

Scoping provides an early and open process for determining the scope of issues an agency will address in a NEPA environmental document. Scoping is the process used to solicit internal and external input and comments on the issues, impacts, and potential alternatives the agency will address in the environmental document and the extent to which the agency will analyze those impacts.

2.2 Scoping Framework and Agency Consultation

In addition to the public input received through the NEPA scoping process described in this scoping report, the BLM is coordinating and receiving input on the WEMO Project from Cooperating Agencies, Tribal governments, and the California Desert District Advisory Council (DAC).

Prior to the start of the scoping period, the BLM mailed 51 Cooperating Agency invitation letters to federal, state, and local agencies identified as having special expertise or jurisdiction by law applicable to the WEMO Project. The letters notified potential Cooperating Agencies of the WEMO Project, provided an overview of the WEMO Project, invited participation as a Cooperating Agency, and provided contact information to submit questions.

The BLM also mailed 16 Tribal consultation letters to potentially affected Tribes formally initiating government-to-government consultation regarding the WEMO Project. The Tribal consultation letters provided an overview of the WEMO Project; requested consultation and invited input; and provided contact information to submit any questions, concerns, or comments on the WEMO Project.

The DAC is a citizen-based Resource Advisory Council that provides recommendations on the management of public lands in the BLM's California Desert District. The DAC operates under a Charter established under Section 309 and Section 601 (g)(1) of the FLPMA, as amended (43 U.S. Code 1739); and all other provisions of the law. In December 2011, in response to the WEMO Project, the DAC established the WEMO Route Network Project Subgroup (WRNPS), which provides input regarding route-specific and network issues pertinent to the WEMO planning area for BLM to consider. The WRNPS is composed of members representing industry, recreation, conservation and the public at large and holds regularly scheduled meetings that are open to the public. The mission of the WRNPS is to prepare a report identifying and providing supporting documentation for a range of alternatives for the eight TMAs in the planning area. The WRNPS is scheduled to submit its final report to the BLM in April 2013.

The BLM will continue to coordinate with the public, Cooperating Agencies, Tribal governments and the DAC throughout the WEMO Project. While this report only considers comments submitted through the formal NEPA scoping process, the Draft EIS will address the input received from all sources.

2.3 Purpose of Scoping Report

This scoping report describes scoping activities for the WEMO Project, summarizes public and agency comments received during scoping, describes the analysis of those comments, summarizes comments by comment category, and provides a preliminary list of issues, concerns, and opportunities for analysis in the EIS. During the EIS preparation, the BLM will consider all substantive issues raised by commenters that are within the scope of BLM decisions.

2.4 Notification and Scoping Meeting Advertisements

The formal scoping process began with publication of the Notice of Intent (NOI) in the *Federal Register* on September 13, 2011 (Appendix A). The original WEMO Project scoping period, as identified in the NOI, ran from September 13, 2011 to October 13, 2011, which the BLM later extended to April 16, 2012. All comments received or postmarked by April 16, 2012 were included in this scoping report. The NOI notified the public of the BLM's intent to prepare an environmental document for the WEMO Project, provided information on the proposed action, described the purpose of the scoping process, and identified methods to provide comments.

As part of the scoping process, the BLM hosted scoping meetings and public workshops for the public and other interested parties to learn about and submit comments on the WEMO Project (see Section 2.5). The BLM advertised the scoping meetings using a variety of outreach materials including the Project website and news releases (Appendix A). The outreach materials provided an overview of the proposed project; provided meeting locations, dates, and times; explained the purpose of the scoping meetings; identified methods for making comments; and provided contact information for questions regarding the WEMO Project. All materials provided an e-mail address for submitting comments (cawemopa@blm.gov) and a link to the Project website (http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html) which contained a comment form and additional project background information.

In the scoping announcements, the BLM requested public comments regarding:

1. Issues related to plan decisions which will guide the management of motorized vehicle access in the WEMO Project planning area;
2. Process and decision criteria to be used during plan implementation to designate routes;
3. Issues and concerns within each subregion;
4. Additional issues cited by the January 28, 2011 Court Order including special status species, vegetation communities (including unique plant assemblages), special area designations, air quality, cultural resources, soils, springs and seeps, and Mojave fringe-toed lizard habitat; and,
5. The "bundling of analysis areas" for route designation.

2.5 Scoping Meetings

The BLM held 10 public scoping meetings to initiate the BLM's process for reconsidering motorized vehicle route designations in the WEMO Project planning area. The BLM held two overview open house public meetings September 27 and 29, 2011, in Ridgecrest and Barstow, California, and based on scoping comments and feedback from those meetings, followed with eight public travel designation workshops, also held in Ridgecrest and Barstow, in January and February 2012. A total of 299 people, not including BLM staff, attended the scoping meetings and workshops. Prior to the meetings, the BLM posted WEMO current maps and additional project information to the Project website for public review. Table 2 provides the locations, dates, times, and number of attendees at each scoping meeting.

All public meetings and workshops consisted of a presentation, followed by a facilitated discussion and open-house format where attendees could meet with BLM managers and specialists in an informal setting to ask questions and learn more about the Project. A brief description of the meeting materials and format for the public meetings and travel designation workshops follows. Appendix B includes copies of scoping meeting materials.

Public Meetings

The September 2011 public meetings began with an informational presentation on the designation process and provided examples of how to provide useful feedback to the BLM during the scoping process. These EIS scoping meetings provided the public the opportunity to provide input on planning issues and the route designation process and overall issues. Following the presentation, attendees were encouraged to circulate through each of the five stations around the meeting room that included posters, route network overview maps, and BLM staff available to provide information, answer questions, and gather feedback from attendees on the route designation approach, alternatives, and minimization considerations. The BLM provided handouts of 14 different maps (11"x17") showing various portions of the currently available and signed route network in the WEMO planning area and posted them on the Project website for examination in more detail. At each meeting, the BLM provided attendees with comment forms and a BLM staff person was available to capture verbal comments.

Travel Designation Workshops

Each of the eight travel designation workshops focused on a particular TMA and provided the public an opportunity to review maps and emphasized providing route- and location-specific comments to the BLM on the focus TMA. The BLM collected additional comments on the overall process as well as other TMAs. The workshops began with a presentation that provided an overview of the route designation process and described the type of general and site-specific information the BLM was looking for from public comments. Each meeting had three to seven stations set up around the room for geographic areas within the TMA that was the focus of that evening's workshop. Each station, in turn, had three to seven large overview maps and an average of twice as many detailed route network maps showing open and closed routes and other site-specific information. Approximately 100 maps (35 overview maps and 65 detailed route network maps) covering the WEMO planning area were provided at all eight workshops. The BLM provided all maps in large format (33"x44") for display at the stations and printed several copies of each in smaller format (11"x17") for handout. The BLM posted maps to the Project website for examination in detail. The BLM provided comment forms to capture general and site-specific comments and transcribed verbal comments at each workshop. In addition, a BLM GIS specialist attended to provide detailed spatial information that is being used to update maps, and capture locational-specific comments.

Table 2. Scoping Meeting Locations

Date	Location	Type	Number of Attendees
September 27, 2011 6:30 p.m. – 9:30 p.m.	Kerr McGee Center 100 W. California Avenue Ridgecrest, California	Public Meeting	40
September 29, 2011 6:30 p.m. – 9:30 p.m.	Hampton Inn 2710 Lenwood Road Barstow, California	Public Meeting	44
January 9, 2012 4:00 p.m. – 7:00 p.m.	Barstow Field Office 2601 Barstow Road Barstow, California	Travel Designation Workshop – Travel Management Area 1	19
January 18, 2012 4:00 p.m. – 7:00 p.m.	Kerr-McGee Building 100 West California Avenue Ridgecrest, California	Travel Designation Workshop – Travel Management Area 2	30
January 26, 2012 4:00 p.m. – 7:00 p.m.	Barstow Field Office 2601 Barstow Road Barstow, California	Travel Designation Workshop – Travel Management Area 3	24
February 6, 2012 4:00 p.m. – 7:00 p.m.	Kerr-McGee Building 100 West California Avenue Ridgecrest, California	Travel Designation Workshop – Travel Management Area 4	44
February 9, 2012 4:00 p.m. – 7:00 p.m.	Barstow Field Office 2601 Barstow Road Barstow, California	Travel Designation Workshop – Travel Management Area 5	16
February 14, 2012 4:00 p.m. – 7:00 p.m.	Barstow Field Office 2601 Barstow Road Barstow, California	Travel Designation Workshop – Travel Management Area 6	7
February 16, 2012 4:00 p.m. – 7:00 p.m.	Kerr-McGee Building 100 West California Avenue Ridgecrest, California	Travel Designation Workshop – Travel Management Area 7	54
February 21, 2012 4:00 p.m. – 7:00 p.m.	Barstow Field Office 2601 Barstow Road Barstow, California	Travel Designation Workshop – Travel Management Area 8	21

3.0 SCOPING COMMENTS

3.1 Comment Document Collection

The BLM received 297 written comment documents collected at public meetings or sent to the BLM via standard mail or e-mail during the scoping period (Table 3). The BLM accepted comments in any written format including verbal comments transcribed during the 10 scoping meetings (see Section 2.5). Of the 297 comments received, 27 were submitted through some variety of form letter. Form letters are standardized and duplicated letters that contain the same text or portions of text and comments. The BLM read all form letters in their entirety and extracted and analyzed any comments unique and supplemental to the form letter; however, the BLM considered comments with the same text as one comment. Section 3.3.1 describes the number of individual comments.

Table 3. Submission Method of Comment Documents

Submission Method	Number of Comment Documents
E-mail	116
Scoping Meeting	127
Standard Mail	54
Total Comment Documents Received During Scoping	**297**

3.2 Comment Document Submissions by Affiliation

Most comment documents were submitted by commenters with no identified affiliation, such as recreation enthusiasts, and other members of the public (Table 4). Interest groups submitted the second greatest number of comments followed by businesses.

Table 4. Number of Comment Documents Received by Affiliation

Commenter Affiliation	Number of Comment Documents
No Affiliation Indicated	201
Business	4
Interest Group	84
State Agency	3
County or City Government	2
Federal Agency	3
Total	**297**

3.3 Comment Summary

The BLM used a multi-step process to catalogue, organize, sort, and summarize comments submitted during scoping. The following nine steps describe how the BLM processed comment documents, identified and bracketed individual comments, and grouped comments into comment categories:

1. Receive and log data for each comment document (e.g., date received, entity, affiliation).
2. Assign each comment document a unique identifier (referred to as a document number) for tracking purposes.
3. Electronically scan the comment document.
4. Review the comment documents and identify (bracket) each individual comment in the comment documents. Many comment documents include multiple individual comments.
5. Code each comment with a comment category (i.e., broad topics used to group comments expressing similar concerns) based on the content of the comment.
6. Enter all individual comments into a sortable spreadsheet with applicable fields, including comment text, comment category, and other relevant information.
7. Sort comments by comment category.
8. Summarize comments by comment category in a narrative form to describe the general questions and concerns submitted during scoping.
9. Develop issue statements to identify questions, concerns, and opportunities submitted during scoping to provide a framework for addressing scoping issues in the EIS.

The BLM categorized all comments into comment categories that reflect common concerns and themes expressed by commenters. Comments submitted on the WEMO Project generally fell into categories of NEPA, livestock grazing, route designation process and issues, and out of scope. Comments regarding route designation were either general (related to the entire route network or multiple routes) or site-specific (associated with a particular TMA). In general, commenters expressed the same issues about specific routes as they expressed about the route network as a whole, and vice versa. Table 5 displays the comment categories identified in this scoping report.

Table 5. Comment Categories

Comment Categories
1. NEPA Process
2. Livestock Grazing
3. Route Designation Process
General and Network Wide Route Designation
4. 43 CFR 8342.1(a) – Route Designation Criterion A
5. 43 CFR 8342.1(b) – Route Designation Criterion B
6. 43 CFR 8342.1(c) – Route Designation Criterion C
7. 43 CFR 8342.1(d) – Route Designation Criterion D
8. Network Purpose and Need
9. Range of Alternatives
10. Data and Route Inventory
11. Analysis and Impacts
12. Mitigation and Minimization
13. Implementation and Administrative Actions
Route-Specific Designation
14. Travel Management Area 1
15. Travel Management Area 2
16. Travel Management Area 3
17. Travel Management Area 4
18. Travel Management Area 5
19. Travel Management Area 6
20. Travel Management Area 7
21. Travel Management Area 8
Out of Scope

CFR Code of Federal Regulations
NEPA National Environmental Policy Act

Categories 4-7 refer to the minimization criteria (43 CFR 8342.1) the BLM must consider during route designation. The 2011 Court Order requires the BLM to reconsider the off-highway vehicle (OHV) route designation for the WEMO Plan that complies with FLPMA and the minimization criteria (43 CFR 8342.1), reproduced below.

All designations shall be based on the protection of the resources of the public lands, the promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands; and in accordance with the following criteria:

> (A) Areas and trails shall be located to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.
>
> (B) Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats.
>
> (C) Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors.
>
> (D) Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that off-road vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established. (43 CFR 8342.1)

3.3.1 Comment Submittals by Comment Category

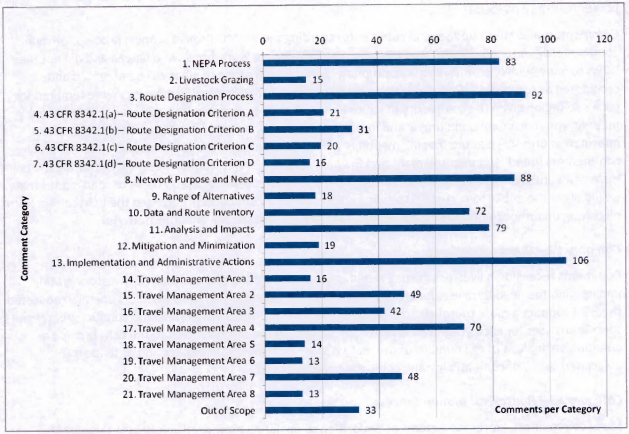
The BLM identified 958 individual scoping comments covering a broad range of comment categories. Table 6 and Figure 1 summarize the number of scoping comments identified by comment category. The greatest number of comments within the scope of the EIS were associated with implementation and administrative actions (106), route designation process (92), network purpose and need (88), and NEPA process (83). Out of scope comments (33) included comment period extension requests, comments regarding need for specific BLM staff, concerns about cost, and other comments that were not within the scope of analysis for the WEMO Project. Appendix C includes all individual comments organized by category.

Table 6. Number of Comments Received by Comment Category

Comment Categories	Number
1. NEPA Process	83
2. Livestock Grazing	15
3. Route Designation Process	92
General and Network Wide Route Designation	
4. 43 CFR 8342.1(a) – Route Designation Criterion A	21
5. 43 CFR 8342.1(b) – Route Designation Criterion B	31
6. 43 CFR 8342.1(c) – Route Designation Criterion C	20
7. 43 CFR 8342.1(d) – Route Designation Criterion D	16
8. Network Purpose and Need	88
9. Range of Alternatives	18
10. Data and Route Inventory	72
11. Analysis and Impacts	79
12. Mitigation and Minimization	19
13. Implementation and Administrative Actions	106
Route-Specific Designation	
14. Travel Management Area 1	16
15. Travel Management Area 2	49
16. Travel Management Area 3	42
17. Travel Management Area 4	70
18. Travel Management Area 5	14
19. Travel Management Area 6	13
20. Travel Management Area 7	48
21. Travel Management Area 8	13
Out of Scope	33
Total Comments Identified	**958**

CFR Code of Federal Regulations
NEPA National Environmental Policy Act

Figure 1. Number of Comments by Comment Category



CFR Code of Federal Regulations
NEPA National Environmental Policy Act

3.3.2 Summary of Comments

This section summarizes comments submitted during scoping that are within the scope of the WEMO Project. The BLM grouped comment summaries into comment categories based on the content of the comment.

Category #1 – National Environmental Policy Act Process

Commenters raised several issues related to the NEPA process, including the type of environmental document to be prepared for the WEMO Project, public participation, and the scoping process. Many commenters noted there was a need to prepare an EIS to adequately address impacts on sensitive resources (e.g., special status species, historic resources, etc.), physical resources (e.g., air quality, soils, water), and cumulative impacts. Other commenters indicated additional stakeholder and agency coordination was needed to ensure consistency with local plans and policies including RS 2477 rights-of-way. Commenters also suggested the BLM more clearly define the scope and proposed actions including the relationship to the previous WEMO Plan.

Commenters emphasized public participation suggesting that the BLM hold regular public meetings during the NEPA and route designation process, allow early and adequate opportunity for public and agency comment, consider all public comments, involve private landowners, and implement a robust stakeholder

process involving a wide range of citizens and interest groups. Some commenters urged caution regarding the voices on the extreme ends of the WEMO Project and asked the BLM to facilitate a safe and harassment-free dialogue.

Commenters also submitted several comments regarding the WEMO Project scoping process. Several commenters expressed concern that the scoping meetings and workshops were flawed and did not meet NEPA scoping guidelines, including inappropriately limiting the scope of what will be accepted and considered as comments. Commenters indicated more site-specific scoping meetings were required for each sub-region given the complexity of issues involved. Some commenters also noted that the scoping meeting announcements, the timing and location of meetings, options for comment submittal, and information presented at the scoping meetings were inadequate and did not meet their needs. Many commenters found fault with the maps and GIS data supplied at the scoping meetings, indicating the maps were of inconsistent and inadequate scale, and did not include important landmarks or road names that would allow the public to make site-specific comments. One commenter requested the BLM refrain from displaying unauthorized routes on public maps as they may encourage unauthorized use.

Category #2 – Livestock Grazing

Comments received on livestock grazing raised issues associated with the analysis of livestock grazing impacts and the need to revise the grazing element of the WEMO Plan. Commenters generally requested the BLM conduct a more thorough analysis of the cumulative impacts of grazing and conduct greater site-specific analyses for each grazing allotment. Specifically, commenters requested the BLM provide a quantitative analysis of the number of routes that cross each grazing allotment and describe the associated issues of compatibility and competing uses in the EIS.

Category #3 – Route Designation Process

Many commenters expressed support or opposition to analyzing motorized vehicle use separately or combined with sub-regional route designation. Commenters fell on both sides of the issue with some commenters supporting the separate approach because of the proximity of the planning area to a large population. Some commenters noted their opposition to the combined approach, and made recommendations for evaluating subregions. Commenters expressed support for using the subregion approach, while others were in favor of the regional approach. Several commenters requested the BLM continue to conduct the route designation process in the Collaborative Access Planning Area (CAPA) (El Paso Mountains and Ridgecrest) as a separate process to allow more time for community participation. Some commenters indicated the court decision did not apply to the lands involved in the CAPA process. One commenter requested the BLM initiate a CAPA process for other areas.

Commenters made several recommendations for the BLM to consider during the route designation process. Some of the suggestions included consideration of regional connectivity, designation of roads already approved (e.g., wilderness boundary roads and cherry stems) or roads easily justified for motorized use, and borrowing from other sources or emulating related processes, such as the California Department of Motor Vehicles Division code (38026.1) which allows for combined use (OHVs and regular vehicles) on highways. Several comments emphasized the importance of key elements of the route designation process including availability of personnel to manage and maintain the route network based on affected resources and management objectives, minimizing vehicle impacts on natural resources, use of aerial photography and GIS, identification of destinations and opportunities, and collaboration with the public and stakeholders. Commenters identified coordination with other land managers, notably the U.S. Forest Service, as an important component of the route designation process. Commenters noted that a

one-size-fits-all approach is not appropriate, noting, for example, decisions applicable to open areas may not apply to limited areas.

Commenters also reminded BLM of the importance of adhering to all state and federal laws and governing land use plans necessary for a cohesive route designation process that minimizes resource impacts but addresses all multiple-use classes. Several comments reiterated the importance of considering the 43 CFR 8342.1 criteria for route designation and suggested they be used consistently.

General and Network Wide Route Designation

Category #4 – 43 CFR 8342.1(a) – Route Designation Criterion A

Criterion A under 43 CFR 8342.1 requires the BLM to minimize damage to air, soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability.

Commenters emphasized the importance of considering the impacts of route designation on soil, watershed, vegetation, air, visual, cultural, and other resources on public lands. Commenters made the following suggestions or comments:

- Soil – use erosion potential ratings when evaluating vehicle use on routes in certain topographies to minimize damage to soils. Stabilize and rehabilitate closed routes as quickly as possible to minimize soil erosion.
- Watershed – avoid designating motorized routes in riparian areas and remove routes in ephemeral waterways including washes.
- Vegetation – limit motorized use to necessary routes to avoid loss of native plants. Commenters identified several sensitive species (e.g., white-margined beardtongue, Mojave monkey flower, and Lane Mountain milk-vetch) that may be affected by motor vehicle use or related activities in the planning area.
- Air – increased routes could lead to increased pollutant emissions and associated adverse impacts on human health. Commenters expressed concern that if air quality in open areas is not improved recreationists may move to other areas creating unauthorized routes.
- Visual – use the Visual Resource Management program when opening routes and prioritizing closing and rehabilitating routes.
- Cultural – erect gates to limit access to cultural sites but do not eliminate all access.

Generally, commenters emphasized that use limitations and minimization criteria were important to consider when evaluating routes for vehicle use to minimize impacts on resources, other uses, and adjacent lands.

Category #5 – 43 CFR 8342.1(b) – Route Designation Criterion B

Criterion B under 43 CFR 8342.1 requires the BLM to minimize harassment of wildlife or significant disruption of wildlife habitats.

Commenters expressed concerns that motorized vehicle use could affect wildlife, special status species, and their habitat in the planning area. Commenters cited loss of habitat, habitat fragmentation, mortality from collision, and reduced density as concerns associated with route proliferation and suggested analyses and mitigation to address the impacts. One commenter cited the 2011 *Revised Recovery Plan for the Mojave Population of the Desert Tortoise* recovery plan as a source of information regarding direct and

indirect threats from motorized vehicle use to desert tortoises and their habitats including crushing, loss of shelter, deliberate maiming or killing, air pollution, fire, invasive plants, surface disturbance, and toxicants.

Commenters specifically noted motorized vehicle use could impact the following special status species:

- Mojave desert tortoise
- Mojave ground squirrel
- Bendire's thrasher
- Gray vireo
- Le Conte's thrasher
- Mojave fringe-toed lizard
- Nelson's bighorn sheep
- Western pond turtle
- Mojave tui chub

Additionally, commenters suggested using timing restrictions to minimize effects of vehicle use on wildlife; there was a lack of data supporting closing routes to improve wildlife connectivity; and routes (motorized and non-motorized) should avoid riparian areas to minimize wildlife harassment and habitat degradation. One comment supported management actions to protect wildlife habitat and consideration of potential impacts from invasive plants, fire, and global warming on plant and animal distribution in arid lands.

Category #6 – 43 CFR 8342.1(c) – Route Designation Criterion C

Criterion C under 43 CFR 8342.1 requires the BLM to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas.

Several commenters expressed concern related to conflicts between motorized vehicle use and recreation and the compatibility of such uses with existing conditions in populated areas. Some of the specific concerns raised by commenters included the adverse effects on non-motorized recreation, access, and private property. To address the conflicts with other recreation, commenters recommended designating certain trails for hiking only and suggested motorized and non-motorized activities occur in separate areas to reduce conflicts. The BLM also received comments suggesting limitations on the types of motorized vehicle use including allowing only street legal vehicles to minimize impacts of staging areas.

Commenters raised several concerns related to adverse effects on private property from motorized vehicle use on public lands including noise, air quality, trespass and lack of law enforcement, loss of property values, and effects associated with large OHV events (environmental, property damage, accidents, and clean-up costs). Other commenters recommended eliminating routes at public-private lands interface and posting signs where routes terminate on private property to prevent trespass. Some commenters noted conflicts with routes terminating at state roads, crossing controlled access highways, and use of local roads.

Category #7 – 43 CFR 8342.1(d) – Route Designation Criterion D

Criterion D under 43 CFR 8342.1 prohibits trails to be located in officially designated wilderness areas or primitive areas.

Commenters recommended reducing or eliminating routes near or within wilderness areas, primitive areas, and areas where sensitive resources occur including Areas of Critical Environmental Concern (ACECs), Desert Wildlife Management Areas, Mojave Ground Squirrel Conservation Areas, etc.

Commenters recommended the BLM consider prohibiting motor vehicles, closing existing routes, and closing adjacent routes to prevent access to wilderness areas. Other commenters indicated routes should be allowed to terminate at wilderness area boundaries and one suggested the California Desert Protection Act took precedent over the federal criteria (43 CFR 8342.1[d]) allowing route designation adjacent to wilderness boundaries as well as exempt vehicle access. One commenter requested BLM quantify the number of routes and resource impacts (habitat, species, etc.) in sensitive areas. Another commenter emphasized the importance of using available data or tools with on-the-ground implementation in the route designation process in sensitive areas.

Category #8 – Network Purpose and Need

Comments in this category primarily addressed reasons why commenters supported or did not support aspects of the WEMO route network. Most comments emphasized the importance of route access for seniors and disabled persons, recreation opportunities including motorized and non-motorized activities such as collecting (gems, minerals, fossils, rocks), driving for pleasure, visiting historic sites, wildlife viewing, photography, horseback riding, climbing, biking, camping, mountain biking, and hiking. Commenters also provided reasons why the BLM should not diminish route access.

Many commenters requested the BLM maintain or restore access to areas special to them including "rockhounding" locations, scenic areas, and favorite OHV routes. Commenters also requested access to private property, water sources for livestock and wildlife, and for educational and research purposes including to fossil sites for paleontological study.

Route expansion was also a common theme in many of the submitted comments. Commenters indicated more trails were needed for a variety of reasons including recreation and safety, noting that dispersing users over larger areas would relieve congestion and prevent accidents. Several commenters identified the need for more types of trails such as single track routes for motorcycle or mountain bikes in order to increase the opportunities for different skill levels (e.g., motorcycle trials, technical trails, youth loops) and the range of riding experiences (single track, quad recreation).

Category #9 – Range of Alternatives

Commenters submitted several comments about the range of alternatives the BLM should consider in the WEMO Project. Many commenters requested the range of alternatives include an alternative that maximizes motorized recreation as well as one that minimizes motorized travel to only that needed in a region. Some commenters noted mileage should be limited or reduced to protect sensitive resources or special designations. Comments indicated alternatives should include multiple route designation scenarios with different route designs in each scenario. Other recommended alternatives included converting existing or closed roads to OHV routes; maintaining access to historic sites, dispersed campsites and trailheads; beginner, intermediate and advanced routes for all motorized users; shared use trails; and building new trails, loops and 4X4 challenge routes. One commenter requested the BLM consider an alternative that maximizes the potential for recovery of Threatened and Endangered species.

Several commenters emphasized the importance of no reduction or loss of motorized opportunities and the need for equal quantity and quality of motorized and non-motorized opportunities. One commenter requested more single track routes while another commenter requested motorcycle or single track routes be specifically defined including how they will be maintained and managed.

Category #10 – Data and Route Inventory

Comments in this category primarily addressed the types of data, data sources, references, maps, and route inventory the BLM should consider during the WEMO Project. Commenters requested various sources of information be included in the baseline inventory for evaluation including data and analysis from previous planning efforts, published sources and maps, BLM GIS data on collecting areas (e.g., rocks, gem, minerals and fossils), inventory of water sources (seeps, springs, tinajas, guzzlers, tanks, and wells), previously disturbed sites, vegetation mapping, and wildlife linkage maps and studies. Several comments suggested compiling the baseline network data from 1980 and pre-1980 maps, then comparing this data with current network data. Commenters also identified ground-truthing to be critical to the development of an accurate route inventory. The general theme of the comments was the importance of developing a complete picture of the existing conditions of the WEMO route network.

Commenters recommended compiling the route network and resource data in GIS format for evaluation and suggested data and methodologies for the evaluation. Commenters requested the BLM consider natural resource data, scientific information related to motorized vehicle use impacts, and motorized use statistics including data on accidents and enforcement. Some commenters also requested the BLM gather and analyze data on closed routes in addition to routes currently designated as open.

The need for better maps was a common sentiment expressed by commenters who pointed out numerous inaccuracies, poor labeling, inadequate scale, and lack of detail as some of the problems with the maps of the WEMO route network. Commenters pointed out details such as railroads, populated areas, and campgrounds which were not shown and others which were not labeled. Several commenters noted they knew of routes not shown on the maps or not properly labeled as open or closed. Commenters suggested displaying topographic features, jurisdictional boundaries, water sources, township and range coordinates, and distinguishing between types of routes using different colors (e.g., single track versus two track routes). In addition to improving the maps, commenters requested the BLM make mapping products, including static maps and GIS data, more readily available by posting on the BLM website.

Category #11 – Analysis and Impacts

The BLM received multiple comments regarding the need for analysis, using the best available science, of potential impacts from the route designation process and resulting travel management amendment on other resources and resource uses. Commenters expressed concern or requested analysis regarding impacts to the following:

- Air Quality – analyze air quality impacts from construction and maintenance of roads and off-road routes as well as regional and local air quality impacts.
- Biological Resources – analyze the impacts to BLM sensitive, rare, threatened, and endangered species and their habitats, including desert tortoise.
- Climate Change – analyze impacts to and from climate change on route designation (one commenter disputed the validity of climate change impacts).
- Cumulative – analyze cumulative impacts from past, present and future actions including, but not limited to proposed or anticipated alternative energy projects, military base expansions (U.S. Marine Corps Air Ground Combat Center Twentynine Palms), other planning efforts such as the

Solar Programmatic EIS and Desert Renewable Energy Conservation Plan, and the cumulative impacts of motorized closures.

- Minerals – analyze impacts to mineral resource extraction and associated economic impacts from restricted access.
- Recreation – analyze the effects of route designation on all types of recreation that occur in the planning area, including non-motorized recreation.
- Socioeconomic – analyze impacts from the project on the social and economic conditions of local and regional communities.
- Soil – analyze acreage of land subjected to low, moderate and high vehicle use disturbance in relation to differing erosion rates.
- Special Designations and Other Management Areas – analyze impacts to special designations and other management areas including national parks, wilderness areas, and ACECs.
- Visual – analyze lands subjected to visual resource impacts due to route location on certain topography, or the likelihood of erosion impacts over time.
- Water – analyze impacts to riparian areas, wetlands, springs, seeps, and other water dependent resources.

Commenters also requested the BLM consider a variety of route-specific factors when analyzing each route during the designation process such as if the route is a through-road, the history of the road, and proximity to guzzlers, tank wells, springs, seeps, or tinajas.

Category #12 –Mitigation and Minimization

Comments in this category primarily addressed how the BLM should mitigate for the loss of routes and mitigate or minimize the impacts from motorized vehicle use on other resources. Several commenters recommended the BLM treat the closure of off-road routes, and resulting loss of access to unique locations for recreational opportunities, as an adverse impact that would necessitate mitigation in the form of designating new routes, opening currently closed routes in areas that would receive the least impact from off-road travel or leaving existing routes open to off-road travel. One commenter stated that mitigation for route designation should be the responsibility of the BLM not other stakeholders, and mitigation should not affect other uses. Another commenter requested the BLM mitigate for the loss of off-road access due to renewable energy and military projects. If the loss of off-road routes cannot be mitigated within the planning area, one commenter advised that a Motorized Access and Recreation Mitigation Bank be established to account for the number of miles closed through the WEMO route designation process.

Other commenters requested the BLM mitigate impacts to other resource values from motorized vehicle travel. Commenters emphasized that redundant routes should be identified and evaluated in an effort to minimize the number of open routes. Several commenters reminded the BLM that they must consider the minimization criteria specified in 43 CFR 8342, reiterating that routes designated as open must still minimize impacts to the natural or cultural resources, air and water quality, scenic values, and non-motorized uses of public lands or adjacent and interspersed private lands. For example, a commenter suggested that the total number of routes in high-relief topography be limited.

Category #13 – Implementation and Administrative Actions

The BLM received the most comments within this category which primarily addressed how the BLM should handle implementation-level decisions including route signage, trail monitoring, enforcement, public education, trail enhancements, and other administrative actions. Improving signage was a common refrain

expressed by commenters, although the recommended methods to do so varied. Some commenters requested the BLM sign all routes as open or closed, while other commenters requested signing only closed routes, only open routes, and variations thereof. Commenters also expressed concern about sign vandalism and indicated areas where the BLM should not erect signs for resource protection. Commenters requested the BLM include specific information on signs and kiosks such as route use limitations, explanations for closure or rehabilitation, historical and cultural information, descriptions and significance of riparian areas for wildlife, skill level needed for travel, directional arrows, route numbers, and information regarding penalties associated with non-compliance for off-road travel restrictions.

Several commenters cited the need for a specific monitoring plan within the WEMO Plan to gather information about impacts to routes to better manage and enforce route designations, comply with route restrictions, and implement rehabilitation efforts. Commenters also noted that rehabilitation of closed routes has generally not been successful in keeping OHVs from using the routes and suggested various ways in which the BLM could improve rehabilitation. For example, one commenter proposed that the "Youth in Nature" program could partially fund rehabilitation efforts, while another commenter recommended that prioritizing rehabilitation areas would be a more efficient use of BLM staff and funding.

Commenters recommended addressing enforcement of route designations and restrictions as a way to improve management of off-road use and impacts and provided suggestions for enforcement strategies (e.g., improved collaboration with city and county law enforcement and improved reporting systems). One commenter also suggested speed limits for limited use areas be lower than non-limited areas. Another commenter suggested issuing an administrative permit to allow access to mining claims that are inaccessible due to road closures. Commenters indicated the BLM needs a public education program to educate trail users on BLM travel management regulations in an effort to further involve the public. The public education program could create avenues in which members of the public can volunteer to assist the BLM in managing off-road routes and commenters suggested different ways an education program could be paid for and implemented. Commenters also suggested coordinating with the U.S. Forest Service on implementation efforts along the boundary of the San Bernardino National Forest and BLM-administered land.

Route-Specific Designation

Category #14 – Travel Management Area 1 (Broadwell Lake, Afton Canyon, and East of Barstow signing sub-regions)

Site-specific comments submitted on TMA 1 addressed issues of access, recreation, visual and cultural resources, paleontological study and education, and protection of wildlife habitat. Most commenters requested access to specific areas like Southern Cady Mountains, Afton Canyon, and Broadwell Lake. Many commenters cited areas in TMA 1 as being excellent areas for "rockhounding" and some noted that access to certain scenic and other recreational sites was not feasible without motorized vehicle routes. Some site-specific comments and requests regarding TMA 1 included:

- Maintain and open additional routes in Afton Canyon and Broadwell Lake subregions to allow for study of important paleontological resources.
- Maintain access across TMA 1 for seniors and disabled persons.

Category #15 – Travel Management Area 2 (Sierras, Darwin, and North and South Searles signing sub-regions)

Site-specific comments submitted on TMA 2 addressed issues of access, recreation, education, and protection of other resource values. Commenters raised issues regarding the impact of routes in TMA 2 on air quality, soils, watershed, vegetation, air, cultural resources, and wildlife. Some commenters specifically requested the BLM mitigate impacts to air quality near the town of Darwin. Several commenters raised concerns about the safety of specific routes in TMA 2 and asked the BLM improve routes to provide safer use, including recommending locations for OHV staging areas. Commenters noted TMA 2 is a favorite location for "rockhounding" and other recreational activities, and commenters provided extensive documentation supporting their rationale for maintaining certain routes as open. Some site-specific comments and requests regarding TMA 2 included:

- Retain access to historical mine sites in the Owens Valley for educational excursions.
- Provide alternative routes to the town of Darwin in case of emergency.
- Provide access to the town of Darwin's water pipeline.
- Provide access to a microwave relay station near the town of Darwin.
- Designate a staging area outside of the inhabited portions of the town of Darwin.
- Maintain singe-track system across TMA 2.

Category #16 – Travel Management Area 3 (Juniper, Rattlesnake, Morongo, Wonder Valley, and Joshua Tree signing sub-regions)

Site-specific comments submitted on TMA 3 addressed issues of access, recreation, trespass, safety, farming and ranching, mining claim access, paleontological study, routes near wilderness areas and national parks, and protection of other resource values. Many commenters raised issues regarding the impact of routes within TMA 3 on air quality, soils, watershed, vegetation, air, cultural resources, and wildlife. Commenters specifically noted that OHV use has been shown to be detrimental to special status plants and wildlife in TMA 3. Additionally, commenters voiced concerns regarding the presence of routes within wilderness areas and intersections with county maintained roads near residential communities, specifically near the Wonder Valley community. Many commenters noted deterioration in the quality of life as a result of increased OHV use. One commenter encouraged the BLM to view the route designation process as an opportunity to address resource concerns and alleviate pressure on sensitive areas in TMA 3. Another commenter requested clarification regarding closures near the Bighorn Mountain Wilderness Area and Viscera Springs. Commenters referenced the lack of signage designating areas as open or closed and a few commenters recommended signage to help riders delineate between BLM-administered land and private property and include speed limits. Several commenters were concerned about the noise created by OHVs. Commenters voiced support or opposition for maintaining specific routes in TMA 3 and many provided rationale for their opinions such as access to mining claims, safety, and conflict with livestock. Some site-specific comments and requests regarding TMA 3 included:

- Permanently close routes in the Morongo Basin adjacent to private property and in fragile habitat.
- Remove off-road vehicle routes near Cleghorn Lakes and Sheephole Wilderness Areas and near Joshua Tree National Park.
- Address "encampments" of off-roaders near Joshua Tree National Park on Old Dale Road.
- Close neighborhood routes in the Wonder Valley for reasons of safety and quality of life.

- Retain access to sites of paleontological importance in Juniper Flats subregion.
- Address illegal motorized vehicle use in Juniper Flats subregion.

Category #17 – Travel Management Area 4 (Jawbone, Middle Knob and Lancaster signing sub-regions)

Site-specific comments submitted on TMA 4 addressed issues of access, recreation, cultural resources, safety, illegal access and trespass, and protection of sensitive wildlife habitat. Several commenters supplied supporting information for a trail system in the Jawbone subregion known as the Jawbone Canyon Store Trail System. Support for the Jawbone Canyon Store Trail System was a common sentiment expressed by other commenters. Additionally, several commenters requested access to currently closed areas as well as general requests to increase the number of trails available. Some commenters expressed concern about fenced trails that funneled all users onto the same trails and resulted in unsafe conditions. Other commenters wanted areas designated for specific types of OHV use only. Some site-specific comments and requests regarding TMA 4 included:

- Increase single-track in Jawbone.
- Close unauthorized trails along Kelso Valley Road, Piute Mountain Road, and St. John's Ridge.
- Open Butterbredt Peak area to more vehicle access.
- Address unauthorized access in the Middle Knob subregion, specifically near the Tehachapi Mountains to protect sensitive cultural resources.
- Reopen the St. John's Ridge trail.
- Close raptor habitat in the Jawbone-Butterbredt ACEC to motorized vehicle travel.
- Address unauthorized access in the Burring Moscow Spring drainage.
- Protect the Pacific Crest Trail from damage from motorized vehicle use.

Category #18 – Travel Management Area 5 (WEMO North Barstow Desert Wildlife Management Area signing sub-region north of Interstate-15 and State Route 58)

Site-specific comments submitted for TMA 5 addressed issues of access, trespass, recreation, gem and mineral collection, paleontological study, and protection of wildlife habitat. The majority of commenters advocated for opening specific routes for rock-collecting, mining claim access, paleontological study, and OHV use, primarily in the Cronese Lake subregion. One commenter requested closing a route due to nearby sensitive species. Some site-specific comments and requests regarding TMA 5 included:

- Address parking near Soda Mountain.
- Maintain access to Mud Hills in the Coolgardie subregion for paleontological and geological study.
- Address unauthorized vehicle use to protect wildlife habitat in Coolgardie Mesa and north of the Minneola Road exit from Interstate-15.
- Protect the Pacific Crest Trail from damage from motorized vehicle use.

Category #19 – Travel Management Area 6 (Mirage (including Edwards Bowl area), Fremont, and Iron Mountain signing sub-regions south of State Route 58)

Site-specific comments submitted on TMA 6 addressed issues of access, trespass, unauthorized use, recreation, and protection of sensitive wildlife and plant species. Some comments alluded generally to the impacts of uncontrolled vehicle use on plant and wildlife populations in TMA 6, while others specifically noted that vehicle staging and camping in the Fremont Subregion and specifically in Edwards Bowl posed potential risk to Barstow woolly sunflower, desert tortoise, and Mojave ground squirrel, and presented a

nuisance to surrounding residents. One commenter expressed concern that routes on BLM-administered land near their property could result in inadvertent trespass and have a detrimental impact on the property's resource values. Another commenter expressed concern about unauthorized use occurring near the historic Mojave Trail. Some site-specific comments and requests regarding TMA 6 included:

- Manage Fremont Peak and Gravel Hills for recreation.
- Manage certain routes in Iron Mountain for motorcycles and certain routes for dual sports events.
- Clarify status of certain routes in Kramer Hills regarding motorcycle use and dual sports event.
- Address unauthorized travel in Point of Rocks.
- Address unauthorized travel in Mojave Fishook Cactus ACEC.

Category #20 – Travel Management Area 7 (Ridgecrest, El Paso, Rands and Red Mtn signing sub-regions)

Site-specific comments submitted on TMA 7 addressed issues of route closure and openings, access, recreation, dual sports events, visual and cultural resources, and protection of sensitive wildlife and plant species. Commenters identified by name or number routes or locations they wanted to see maintained, opened, extended or closed for reasons such as for safety, wildlife viewing, and access to "rockhounding" sites and mining claims. Several commenters expressed strong support for more roads and greater vehicle access across TMA 7 for recreational purposes, including providing vehicle support for equestrian backcountry trips, access to recreational areas for seniors, access to gem and mineral collecting sites, and access to public gathering sites. Some commenters expressed concern regarding proliferation of routes in TMA 7 and the resultant impacts to scenic viewpoints and desert tortoise habitat, while others indicated they wanted to maintain access to scenic areas and cultural sites. Commenters noted the types and characteristics of trails were important considerations and commenters requested more single-track or the re-routing of trails to provide different levels of difficulty. Some of the site-specific comments and requests regarding TMA 7 included:

- Designate the El Paso subregion as a Special Management OHV Area with all trails managed as open.
- Expand the Spangler area to include 'C' routes.
- Re-open routes in Rand Mountains.
- Maintain the former West Rands ACEC as closed to motorized use.
- Maintain route access in El Paso zones 34 and 35 for target shooting and hunting.
- Develop and manage single-track system.
- Provide access to routes in West Rands by permit only.

Category #21 – Travel Management Area 8 (Lands adjacent to Stoddard and Johnson OHV areas, and other signing sub-regions south of Interstate-40 and north of State Route 247 including east of Interstate-15)

Site-specific comments submitted for TMA 8 addressed issues of access, recreation, competitive racing, and gem and mineral collection. Commenters mainly addressed specific routes they would like to remain open for OHV use, rock-collecting, and mining claim access, specifically in the Stoddard Wells-Black Mountain, Talc Mine, and Lavic areas. One commenter expressed concern that the Ord Mountain region was experiencing high levels of illegal use, and another commenter indicated he was concerned about the

expansion of military land into Johnson Valley. Some of the site-specific comments and requests regarding TMA 8 included:

- Designate Camprock Road under RS 2477.
- Increase enforcement in Ord Mountain region.
- Obtain easements from private property owners to connect routes.
- Connect Stoddard Valley Open Area with open areas of Johnson Valley.

3.3.3 Summary of Out of Scope Comments

In addition to the comments described above, the BLM received scoping comments that were outside the scope of analysis for the WEMO Project. Out of scope comments included comments regarding internal BLM operations, comments associated with decisions and actions that will not be made in the WEMO Project EIS, and other comments that are not within the scope of analysis for the WEMO Project EIS.

Many commenters asked the BLM to extend or include additional opportunities for public comments. Some commenters raised issues with BLM staffing, noting that staff turnover, specifically of field managers in the Ridgecrest and Barstow field offices, and the lack of staff that are knowledgeable about travel management issues and FLPMA and NEPA generally, was a detriment to the WEMO Project. One commenter specifically requested BLM staff be licensed and trained to operate OHVs and spend time riding with the OHV community to better understand their needs, and another commenter expressed concern with how BLM staff was upholding the California Desert Protection Act.

A few commenters voiced concerns regarding the BLM's budget and whether it will be adequate to complete and enforce the route designations. Other comments questioned how the BLM could complete the project on a condensed timeline when the original project took 15 years.

Some commenters requested decisions on actions outside the BLM's authority including a congressional proposal to restrict access in portions of the Mojave Desert, and the creation or removal of wilderness areas. Other comments requested the BLM address decisions outside the scope of the WEMO Project EIS, including managing target shooting, controlling burro populations, and addressing safety concerns associated with abandoned mine lands.

4.0 ISSUES IDENTIFIED DURING SCOPING

Based on the comments submitted during scoping and summarized above, the BLM developed 18 issue statements, in the form of questions, which describe the general issues and concerns identified during scoping. This section also includes specific questions and concerns encapsulated within each issue statement, displayed in bullet-point format beneath each issue statement. Issue statements are organized by comment category (e.g., Route Designation Process) although the relationship between comment category and issue statement is not necessarily one to one – a comment category may have none, one or multiple issue statements based on the broad concerns raised by commenters. Because general or network wide and site-specific route designation comments raised the same issues (the latter raising issues by location rather than generally), issue statements appear only under the General and Network Wide Route Designation categories.

The BLM will continue to consider issues during the WEMO Project as it receives additional input from the public, Cooperating Agencies, Tribes, the DAC, and other affected parties.

National Environmental Policy Act Process

Issue: How will BLM define the scope of the WEMO Project and effectively engage the public and stakeholders in the process?

Livestock Grazing

Issue: How will the WEMO Project address livestock grazing impacts?

- What are the site-specific and cumulative impacts of livestock grazing?
- How will the BLM analyze and mitigate the impacts from livestock grazing on resources and resource uses?

Route Designation Process

Issue: How will the BLM designate and evaluate routes in the WEMO Plan considering other travel management processes and plans?

- Will the WEMO Project incorporate the CAPA process?
- How will the route designation process comply with the court mandates and relevant federal, state, and local policies, regulations, and land use plans?
- How will the BLM manage and maintain the route network?
- How can the BLM maintain connectivity with other planning areas?
- What options to closing routes are available if the BLM identifies conflicts with 43 CFR 8342.1?

Issue: Will the BLM designate and evaluate routes using the subregion or regional approach?

- Will the BLM analyze motor vehicle use separately or combined with subregion route designation?

General and Network Wide Route Designation

43 CFR 8342.1(a) – Route Designation Criterion A

Issue: How will the BLM comply with route designation Criterion A (43 CFR 8342.1[a]) to minimize damage to air, soil, watershed, vegetation and other resources?

- Consider impacts to special status plant species.
- What methods or actions can improve air quality in the planning area and minimize potential effects on human health?
- Use the Visual Resource Management system to evaluate and minimize impacts on visual resources.
- Utilize soil erosion potential ratings and other tools to identify areas or routes to be avoided, closed, or rehabilitated to minimize impacts on soils.

43 CFR 8342.1(b) – Route Designation Criterion B

Issue: How will the BLM comply with route designation Criterion B (43 CFR 8342.1[b]) to minimize harassment to wildlife or significant disruption of wildlife habitats?

- Minimize effects of motorized and non-motorized recreation on wildlife, including special status species and their habitats in the planning area.
- What management actions and other strategies can minimize habitat fragmentation in and around the WEMO Project planning area?
- Avoid designating routes in critical habitat, riparian areas, and other sensitive habitats.

43 CFR 8342.1(c) – Route Designation Criterion C

Issue: How will the BLM comply with route designation Criterion C (43 CFR 8342.1[c]) to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas?

- Identify areas and trails to be designated for non-motorized recreation.
- Identify areas and routes to be designated for specific types of motorized use (e.g., motorcycle only versus quad trails, touring versus staging areas, etc.).
- How will route designation and travel management minimize effects of motorized recreation on the surrounding community and adjacent landowners?
- Identify routes or areas for closure to reduce conflicts with adjacent landowners.
- Minimize effects of OHV events on the surrounding community.
- How can the BLM improve enforcement and compliance with rules, regulations and policies for motorized recreation?
- What measures can reduce effects of noise and dust on the surrounding community and adjacent landowners?

43 CFR 8342.1(d) – Route Designation Criterion D

Issue: How will the BLM comply with route designation Criterion D (43 CFR 8342.1[d]) to prohibit trails in officially designated wilderness areas or primitive areas?

- Comply with policies, regulations and laws related to wilderness areas.
- Identify routes to be closed or use limited near or within wilderness areas, primitive areas, and areas where sensitive resources occur.
- What methods and tools can the BLM implement to protect wilderness and sensitive resources?

Network Purpose or Need

Issue: How will travel management and route designation meet and balance the needs of public land interests?

- How can the WEMO Plan balance designating routes while enhancing recreation opportunities in the planning area?
- How can the BLM maintain access for all users including seniors or disabled persons?
- How many new trails and types of opportunities can the WEMO planning area accommodate?
- How many and which trails will be opened, closed or use limited to minimize impacts (recreation and resource) while maintaining safety?

Range of Alternatives

Issue: How will the BLM develop reasonable alternatives representing a range of travel management opportunities that meet the purpose and need?

- Consider a range of alternatives including an alternative that maximizes the route network and one that maximizes resource protection.
- What mix of motorized and non-motorized opportunities best meets the purpose and need of the route designation process?
- How many different network scenarios can the BLM formulate?
- What components in each scenario (types of opportunities, destinations) are important to address both motorized and non-motorized recreation?

Data and Route Inventory

Issue: How will the BLM compile appropriate data and baseline information to inform the route designation process, guide the impact analysis, and engage the public?

- Consider existing data sources applicable to recreation and natural resources, including rock, gem, mineral and fossil collecting sites, other planning efforts underway in the region, and wildlife linkage studies and maps.
- Use up-to-date scientific information on resources and potential impacts of recreation.
- Identify appropriate methods and data needed.
- Consider using information from previously published maps, surveys, and designation efforts.
- Engage and utilize public and stakeholder knowledge of the planning area.
- Use mapping products to effectively inform the public.

- Identify and implement methods to verify routes including collaborating with public and stakeholders.
- What level of detail is needed to inform the public so they can effectively comment on the route network?
- Consider ways to make maps and data more readily available to the public.

Analysis and Impacts

Issue: How will the BLM analyze and consider the range of potential impacts to resources and resource uses from route designation in the planning area?

- Consider route-specific factors when analyzing the route network.
- Analyze both local and regional impacts to air quality from motorized vehicle use and construction and maintenance of routes.
- Analyze impacts to mineral resource extraction and related socioeconomic impacts from route minimization.
- Analyze the impacts to BLM sensitive, rare, threatened and endangered species and their habitats.
- Analyze how climate change would affect the proposed WEMO Project and how the WEMO Project would affect climate change.
- Analyze how route designation will affect motorized and non-motorized recreation.
- Analyze impacts from the WEMO Project on the social and economic conditions of local and regional communities.
- Analyze impacts to soil, including effects on erosion, from motorized vehicle use.
- Analyze impacts to special designations and other management areas including ACECs, national parks, and wilderness areas.
- Analyze impacts to visual resources from route designation and motorized vehicle use in the short and long term.
- Analyze impacts to riparian areas, wetlands, springs, seeps and other water dependent resources.

Issue: How will the WEMO Project address cumulative impacts associated with past, present, and reasonably foreseeable development in the region?

- What past, present, and reasonably foreseeable projects and their connected actions would be appropriate to include in the cumulative impacts analysis?
- Consider the cumulative impact of road closures.
- How will the expansion of the U.S. Marine Corps Air Ground Combat Center Twentynine Palms affect the route network in the planning area, and how will the BLM address impacts?

Mitigation and Minimization

Issue: How will the BLM mitigate the loss of access from road closures?

- Should the BLM establish a mitigation bank or use other methods to account for the loss of road or trail mileage through the route designation process?
- How will the BLM mitigate road closures in a manner that has the least impact on other uses?
- Mitigate for the loss of off-road access due to renewable energy, military projects, and other projects that occur in the planning area.

Issue: How should the WEMO Project mitigate or minimize the impacts to other resource values from motorized vehicle travel?

- Routes designated as open should minimize impacts to natural and cultural resources, air and water quality, scenic values, and non-motorized uses of public lands or adjacent or interspersed private lands.
- Identify and remove redundant routes.
- Consider the minimization criteria specified in 43 CFR 8342.
- Limit the number of routes in sensitive areas.

Implementation and Administrative Actions

Issue: How will the BLM use signage to identify designations and reduce the potential for conflict?

- Which route designations will receive signs (closed, open, limited, or a combination thereof)?
- What information will the BLM post on signs and kiosks to inform and educate trail users?
- Should the BLM post route signs near sensitive resources at the risk of bringing attention to the resources?
- What measures should the BLM implement related to signage to improve user safety?
- How will the BLM address vandalism of signs and kiosks?

Issue: How will the WEMO Plan address monitoring and rehabilitation of the WEMO route network?

- Consider a monitoring plan.
- Consider establishing a threshold that identifies a level of unacceptable impact.
- How can the BLM increase the efficiency of rehabilitating closed routes and reduce unauthorized travel on closed routes?

Issue: How will the BLM educate the public on the revised route designations and enforce BLM travel management rules and regulations?

- What methods can the BLM use to improve enforcement of route designations and restrictions?
  - Improve collection of enforcement violation data.
- What types of outreach programs will be most effective for educating trail users and reducing the number of violations?
- Consider volunteers to help manage and maintain the route network.

5.0 SUMMARY OF FUTURE STEPS IN THE PROCESS

Now that scoping is complete, the BLM will develop a reasonable range of alternatives that address the issues identified during scoping and complete travel management plans for each of the eight TMAs. The alternatives will offer distinctive choices among travel management strategies and provide management direction for the eight travel management plans. The BLM will analyze each of the alternatives in the EIS to assess the environmental impacts of the alternatives.

The next formal opportunity for public comment will be when the BLM releases the Draft EIS, anticipated June 2013. The BLM will continue to accept and consider all public input throughout the WEMO Project process. Additionally, the BLM will continue to coordinate with Cooperating Agencies, Tribes, the DAC, and other interested parties during the WEMO Project development process.

The BLM will publish a Notice of Availability (NOA) for the Draft EIS in the Federal Register announcing availability of the Draft EIS for review and comment. Publication of the NOA for the Draft EIS will initiate a public comment period during which the BLM will invite the public and other interested parties to provide comments on the Draft EIS. The BLM will hold public meetings during the public comment period and will advertise the meetings through mailings to contacts on the project mailing list and through other notification methods. The BLM will review and consider all comments received on the Draft EIS during the public comment period. The BLM will revise the Draft EIS as appropriate based on public comments, and will incorporate all substantive comments and responses into the Final EIS. The BLM will publish an NOA for the Final EIS in the Federal Register announcing the availability of the Final EIS. The BLM anticipates releasing the Final EIS in November 2013.

Following the release of the Final EIS, the BLM will prepare a ROD, documenting the selected alternative. The BLM anticipates publishing the ROD in January 2014.

In the near term, the BLM is preparing and posting on the WEMO Project website baseline data depicting the current route network for each of the TMAs in the planning area. The BLM anticipates posting data for all TMAs by mid-July 2012.

Appendix A

Scoping Notification

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APPENDIX A
SCOPING NOTIFICATION

Notice of Intent

(Presidentially Declared Disasters); 97.039, Hazard Mitigation Grant.)

W. Craig Fugate,
Administrator, Federal Emergency Management Agency.
[FR Doc. 2011–23326 Filed 9–12–11; 8:45 am]
BILLING CODE 9111–23–P

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

Indian Gaming

AGENCY: Bureau of Indian Affairs, Interior.

ACTION: Notice of Approved Tribal—State Class III Gaming Compact.

SUMMARY: This notice publishes an approval of the gaming compact between the Flandreau Santee Sioux Tribe and the State of South Dakota.

DATES: *Effective Date:* September 13, 2011.

FOR FURTHER INFORMATION CONTACT: Paula L. Hart, Director, Office of Indian Gaming, Office of the Deputy Assistant Secretary—Policy and Economic Development, Washington, DC 20240, (202) 219–4066.

SUPPLEMENTARY INFORMATION: Under section 11 of the Indian Gaming Regulatory Act of 1988 (IGRA) Public Law 100–497, 25 U.S.C. 2710, the Secretary of the Interior shall publish in the **Federal Register** notice of approved Tribal-State compacts for the purpose of engaging in Class III gaming activities on Indian lands. This Compact increases the number of gaming devices for which the Tribe is authorized to operate from 250 to 500.

Dated: August 31, 2011.

Larry Echo Hawk,
Assistant Secretary—Indian Affairs.
[FR Doc. 2011–23369 Filed 9–12–11; 8:45 am]
BILLING CODE 4310–4N–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLCOR57000–L63100000–HD0000: HAG11–0043]

Filing of Plats of Survey: Oregon/Washington

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice.

SUMMARY: The plats of survey of the following described lands are scheduled to be officially filed in the Bureau of Land Management Oregon/Washington State Office, Portland, Oregon, 30 days from the date of this publication.

Willamette Meridian, Oregon

T. 30 S., R. 2 W., accepted August 18, 2011.
T. 20 S., R. 6 W., accepted August 18, 2011.
T. 18 S., R. 12 W., accepted August 18, 2011.
T. 16 S., R. 1 W., accepted August 26, 2011.
T. 19 S., R. 8 W., accepted August 26, 2011.
T. 13 S., R. 6 W., accepted August 30, 2011.
T. 3 S., R. 3 E., accepted August 30, 2011.

ADDRESSES: A copy of the plats may be obtained from the Land Office at the Bureau of Land Management, Oregon/Washington State Office, 333 SW. 1st Avenue, Portland, Oregon 97204, upon required payment. A person or party who wishes to protest against a survey must file a notice that they wish to protest (at the above address) with the Oregon/Washington State Director, Bureau of Land Management, Portland, Oregon.

FOR FURTHER INFORMATION CONTACT: Kyle Hensley, (503) 808–6174, Branch of Geographic Sciences, Bureau of Land Management, 333 SW. 1st Avenue, Portland, Oregon 97204. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1–800–877–8339 to contact the above individual during normal business hours. The FIRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Fred O'Ferrall,
Chief, Branch of Land, Mineral, and Energy Resources.
[FR Doc. 2011–23000 Filed 9–12–11; 8:45 am]
BILLING CODE 4310–33–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[[LLCAD00000.L91310000.EI0000]

Notice of Intent to Prepare an Environmental Document and Proposed Plan Amendment for the West Mojave (WEMO) Plan, Motorized Vehicle Access Element, Inyo, Kern and Los Angeles and San Bernardino Counties, CA

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent.

SUMMARY: In compliance with the *National Environmental Policy Act of 1969*, as amended (NEPA), and the *Federal Land Policy and Management Act of 1976*, as amended (FLPMA), the Bureau of Land Management (BLM) California Desert District (CDD) intends to prepare an environmental document to amend the West Mojave (WEMO) area plan. By this Notice, the BLM is announcing the beginning of the scoping process to solicit public comments.

DATES: This notice initiates the public scoping process for the environmental document and proposed plan amendment. Comments on issues may be submitted in writing until October 13, 2011. The date(s) and location(s) of any scoping meetings will be announced at least 15 days in advance through the local news media, newspapers, and the BLM Web site at: *http://www.blm.gov/ca/st/en/fo/cdd.html*. In order to be fully considered in the environmental document, all scoping comments must be received prior to the close of the scoping period or 15 days after the last public meeting, whichever is later. The BLM will provide additional opportunities for public participation upon publication of the environmental document.

ADDRESSES: The public may submit comments on planning criteria and related issues, by any of the following methods:

- *E-mail: cawemopc@blm.gov.*
- *Web site: http://www.blm.gov/ca/st/en/fo/cdd/west_mojave_wemo.*
- *Fax:* (951) 697–5299.
- *Mail:* BLM California Desert District Office, 22835 Calle San Juan de Los Lagos, ATTN: Alan Stein, Moreno Valley, CA 92553–9046.

Documents relevant to this proposal may be examined at the California Desert District Office or Web site (address above), or the BLM's California State Office, 2800 Cottage Way, Sacramento, CA 95825.

FOR FURTHER INFORMATION CONTACT: Alan Stein, telephone (951) 697–5382; address Bureau of Land Management, California Desert District Office, 22835 Calle San Juan de Los Lagos, ATTN: Alan Stein, Moreno Valley, CA 92553–9046; e-mail *cawemopr@blm.gov*. Persons who use a telecommunications device for the deaf (TDD) may call the Federal information Relay Service (FIRS) at 1–800–877–8339 to contact the above individual during normal business hours. The FIRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: The California Desert Conservation Area (CDCA) Plan of 1980 addressed public-land resources and resources use within 25-million acres of land in southern California. The 1980 CDCA Plan included 12 plan elements, including a Motorized Vehicle Element. The Motorized Vehicle Access Element of the CDCA Plan addressed both access and vehicular use of public lands in southern California, and identified management guidelines and objectives. The CDCA Plan of 1980 has been amended numerous times since it was adopted in 1982. The CDCA Plan contains language that has been judicially determined to restrict motorized routes to those that existed in 1980.

In 2006, the BLM approved a comprehensive amendment to the West Mojave area of the CDCA Plan. In a 2006 Western Mojave Record of Decision (WEMO ROD) the BLM amended the CDCA Plan and modified its motorized vehicle management decisions, including off-highway vehicle (OHV) route designation, on more than 3 million acres of public land within the CDCA. The 2006 WEMO ROD approved the designation of 5,096 miles of motorized vehicle routes without specifically changing the language of the 1980 CDCA plan.

A lawsuit was filed challenging the WEMO ROD's route designation process. In January 2011, a court order remanded the 2006 WEMO ROD to the BLM and, in part, directed the BLM to amend the CDCA Plan and reconsider route designation throughout the WEMO area. By court order, the BLM must issue a revised decision by March 31, 2014.

A plan amendment is necessary to update language in the Motorized Vehicle Access Element of the CDCA Plan. The plan amendment, and associated environmental documents, will address two components, among others: (1) Alternatives for amending the Motorized Vehicle Access Element of the CDCA Plan for the WEMO area; and (2) Alternative processes for designating travel routes within the sub-regional areas of the WEMO plan area.

The main purpose of the scoping process is to solicit public comments on the following:

1. Identification of those portions of the WEMO plan that should be revised to reflect current management policy regarding motorized vehicle access;

2. Identification of the process and decision criteria that should be used to designate routes in the sub-regional areas of the WEMO plan area;

3. Identification of motorized vehicle use issues and concerns within each sub-regional area of the WEMO plan area;

4. Identification of the best science and technology available to identify and establish viable route networks in the sub-regional areas of the WEMO plan area; and

5. Whether the BLM should analyze an amendment to the WEMO plan as it relates, primarily, to motorized vehicle use separately or in conjunction with sub-regional route designation, and alternatives to route designation.

The proposed planning effort would allow the BLM to revise portions of the Motorized Vehicle Element of the CDCA Plan to more clearly describe how motorized vehicle use will be managed in the CDCA according to current BLM policy. A primary objective of the proposed action for this plan amendment is to replace the following CDCA Plan language: "at the minimum, use will be restricted to existing routes of travel," with language that reflects current BLM policy, such as restricting motorized vehicle use to designated routes. Other language from the CDCA Plan may be modified to reduce confusion and clearly state to the public where motorized vehicle use is appropriate and where it is inappropriate.

Further, subsequently, concurrently, or in a combination of both, additional environmental analysis would address current route designation within the WEMO sub-regional areas. This analysis would result in new decisions for each sub-regional area within the WEMO plan area that would either retain or modify, in whole or in part, current route designations. New route designation decisions would be issued in accordance with the route designation criteria in 43 CFR 8342.1, and in consideration of other applicable laws, regulations, and policies.

The public scoping process for this action will also determine relevant issues, impacts, and possible alternatives that could influence the scope of the environmental analysis, and guide the entire process from plan decision-making to route designation review in order to comply with the court order.

The BLM has identified the following preliminary issues of concern: Special status species, vegetation communities (including unique plant assemblages), special area designations, air quality in previously designated open areas, cultural resources, soils, springs and seeps, fringe-toed lizard habitat, and cumulative effects.

By this Notice, the BLM is complying with requirements in 43 CFR 1610.2(c) to notify the public of potential amendments to land use plans. The BLM will integrate the land use planning process with the NEPA process. The scoping process will help determine whether the BLM prepares an environmental assessment or an environmental impact statement (EIS), based on the anticipated level of impacts. In the event the BLM elects to prepare an EIS, this notice satisfies the requirement in 40 CFR 1501.7 to publish a Notice of Intent to prepare an EIS.

The BLM will utilize and coordinate the NEPA commenting process to satisfy the public involvement process for Section 106 of the *National Historic Preservation Act* (NHPA) (16 U.S.C. 470(f)), as provided for in 36 CFR 800.2(d)(3). Tribal consultations will be conducted in accordance with policy, and tribal concerns including impacts on Indian trust assets, if any, will be given due consideration. Federal, State, and local agencies, along with other stakeholders that may be interested or affected by the BLM's decision on this proposed plan amendment or implementation decisions, are invited to participate in the scoping process, and the whole of the public involvement process.

Preliminary planning criteria include the following:

1. The plan amendment will comply with FLPMA, NEPA, and all other applicable laws, regulations, and policies.

2. For program-specific guidance for decisions at the land use planning level, the process will follow the BLM's policies in the Land Use Planning Handbook, H–1601–1 and Manual Section 1626, Travel and Transportation Management.

3. Public participation and collaboration will be an integral part of the planning process.

4. The BLM will strive to make decisions in the plan compatible with

the existing plans and policies of adjacent local, State, and Federal agencies and local American Indian tribes, as long as the decisions are consistent with the purposes, policies, and programs of Federal law and regulations applicable to public lands.

5. The plan amendment will incorporate, where applicable and appropriate, management decisions brought forward from existing planning documents.

6. The BLM will work collaboratively with cooperating agencies and all other interested groups, agencies, and individuals.

7. GIS and metadata information will meet Federal Geographic Data Committee standards, as required by Executive Order 12906. All other applicable BLM data standards will also be followed.

8. The planning process will provide for ongoing consultation with American Indian tribes and strategies for protecting recognized traditional uses, e.g., gathering of traditionally used plant materials.

9. The plan amendment will focus on developing language for the WEMO area that conforms to the goals of the Motorized Vehicle Access Element of the CDCA Plan as described in the 1982 Plan Amendment #3.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made available any time. While you can ask the BLM in your comment to withhold your personal identifying information from public release, the BLM cannot guarantee that we will be able to do so.

Thomas Pogacnik,

Deputy State Director, Natural Resources.

[FR Doc. 2011–23220 Filed 9–12–11; 8:45 am]

BILLING CODE 4310–40–P

DEPARTMENT OF THE INTERIOR

National Park Service

[2253–665]

Notice of Inventory Completion: Maxwell Museum of Anthropology, University of New Mexico, Albuquerque, NM

AGENCY: National Park Service, Interior.

ACTION: Notice.

SUMMARY: The Maxwell Museum of Anthropology, University of New Mexico has completed an inventory of human remains, in consultation with the appropriate Indian tribe, and has determined that there is a cultural affiliation between the human remains and a present-day Indian tribe. Representatives of any Indian tribe that believes itself to be culturally affiliated with the human remains may contact the Maxwell Museum of Anthropology, University of New Mexico. Repatriation of the human remains to the Indian tribe stated below may occur if no additional claimants come forward.

DATES: Representatives of any Indian tribe that believes it has a cultural affiliation with the human remains should contact the Maxwell Museum of Anthropology, University of New Mexico at the address below by October 13, 2011.

ADDRESSES: Heather Edgar, Curator of Human Osteology, Maxwell Museum of Anthropology, University of New Mexico, MSC01 1050, 1 University of New Mexico, Albuquerque, NM 87131, telephone (505) 277–4415.

SUPPLEMENTARY INFORMATION: Notice is here given in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA), 25 U.S.C. 3003, of the completion of an inventory of human remains in the possession of Maxwell Museum of Anthropology, University of New Mexico, Albuquerque, NM. The human remains were removed from Sandoval County, NM.

This notice is published as part of the National Park Service's administrative responsibilities under NAGPRA, 25 U.S.C. 3003(d)(3). The determinations in this notice are the sole responsibility of the museum, institution, or Federal agency that has control of the Native American human remains. The National Park Service is not responsible for the determinations in this notice.

Consultation

A detailed assessment of the human remains was made by Maxwell Museum of Anthropology, University of New Mexico professional staff in consultation with representatives of the Pueblo of Jemez, New Mexico.

History and Description of the Remains

Between the 1930s and 1940s, human remains representing a minimum of 189 individuals were removed from the Unshagi site (LA 123), Sandoval County, NM, during excavations by University of New Mexico field schools. The human remains were accessioned by the museum between 1973 and 1975. No known individuals were identified. No associated funerary objects are present.

Between the 1930s and 1940s, human remains representing a minimum of 78 individuals were removed from the Guisewa site (LA 679), Sandoval County, NM, during excavations by University of New Mexico field schools. The human remains were accessioned by the museum between 1973 and 1975. No known individuals were identified. No associated funerary objects are present.

Between the 1930s and 1940s, human remains representing a minimum of 65 individuals were removed from the Nonishagi site (LA 541), Sandoval County, NM, during excavations by University of New Mexico field schools. The human remains were accessioned by the museum between 1973 and 1975. No known individuals were identified. No associated funerary objects are present.

At unknown dates, human remains representing a minimum of 64 individuals were removed from various sites located in the area of "Jemez." No known individuals were identified. No associated funerary objects are present.

The human remains are identified as ancestral Jemez because they came from Puebloan sites of the upper Jemez River drainage. Populations that inhabited these sites are linked by Native oral tradition, Euro-American records, and archeological evidence to members of the present-day Pueblo of Jemez, New Mexico.

Determinations Made by the Maxwell Museum of Anthropology, University of New Mexico

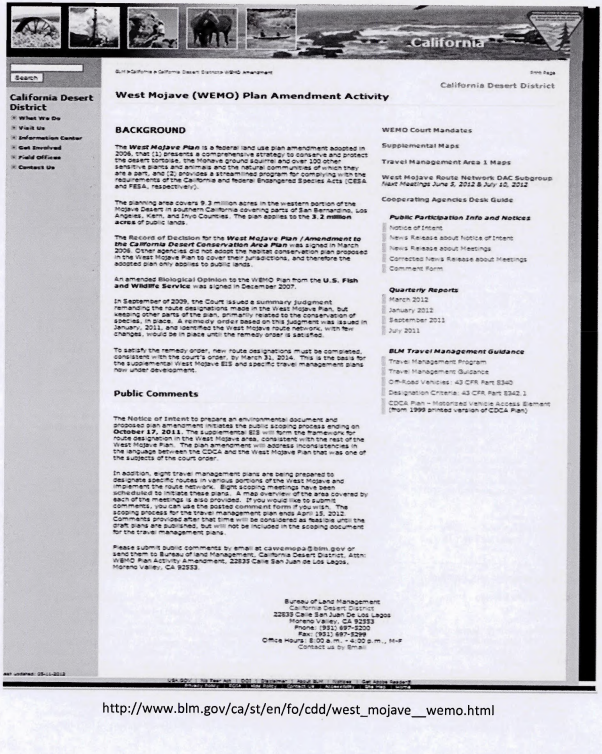
Officials of the Maxwell Museum of Anthropology, University of New Mexico have determined that:

- Pursuant to 25 U.S.C. 3001(9), the human remains described above represent the physical remains of at least 416 individuals of Native American ancestry.
- Pursuant to 25 U.S.C. 3001(2), there is a relationship of shared group identity that can be reasonably traced between the Native American human remains and the Pueblo of Jemez, New Mexico.

Additional Requestors and Disposition

Representatives of any other Indian tribe that believes itself to be culturally affiliated with the human remains should contact Heather Edgar, Curator of Human Osteology, Maxwell Museum of Anthropology, University of New Mexico, MSC01 1050, 1 University of New Mexico, Albuquerque, NM 87131, telephone (505) 277–4415, before October 13, 2011. Repatriation of the human remains to the Pueblo of Jemez, New Mexico, may proceed after that

West Mojave Plan Amendment Website



http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html

West Mojave Plan Amendment News Release – 09/13/2011

BLM Announces Intent to Prepare Environmental Document for Motorized Vehicle Management in West Mojave Planning Area (09/13/2011)

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT NEWS RELEASE
California Desert District Office

Release Date: 09/13/11
Contacts: Stephen Razo 951-697-5217
David Briery 951-697-5220

News Release No. CA-CDD-11-77

BLM Announces Intent to Prepare Environmental Document for Motorized Vehicle Management in West Mojave Planning Area

The Bureau of Land Management (BLM), California Desert District, announced its intent to prepare an environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave (WEMO) area.

A Notice of Intent to prepare the plan for areas in Inyo, Kern, Los Angeles and San Bernardino counties published in the Federal Register today.

By this Notice, the BLM is announcing the beginning of the scoping process to solicit public comments on:

(1) issues related to plan decisions which will guide the management of motorized vehicle access in the WEMO plan area;
(2) process and decision criteria to be used during plan implementation to designate routes;
(3) issues and concerns within each subregion;
(4) additional issues cited by the January 28, 2011 Court Order including special status species, vegetation communities (including unique plant assemblages), special area designations, air quality, cultural resources, soils, springs and seeps and Mojave fringe-toed lizard habitat; and
(5) the "bundling of analysis areas" for route designation.

A lawsuit was filed by a variety of Plaintiffs challenging the BLM's Record of Decision (ROD) for the 2006 WEMO Plan. On January 28, 2011, the Court issued an Order Remedy and remanded the 2006 WEMO ROD to the BLM and, in part, directed the BLM to amend the plan and to reconsider route designations. The court required that a revised decision for the WEMO route designation be completed by March 31, 2014.

Two BLM public scoping meetings will be held: one in Ridgecrest and one in Barstow. Details on the public scoping meetings are provided below. Any additional public meetings will be announced through the local news media, newspapers, mailings, and at the BLM web page: http://www.blm.gov/ca/st/en/fo/cdd.html at least 15 days prior to the event.

September 27, 2011: 6:30 pm – 9:30 pm

Kerr McGee Center
100 W. California Ave.
Ridgecrest, CA 93555
(760) 499-5151

September 29, 2011: 6:30 pm – 9:30 pm

Hampton Inn
2710 Lenwood Road
Barstow, California 92311
(760) 253-2600

The public may submit comments on issues and planning criteria related to the WEMO EA for the Motorized Vehicle Access Element, by any of the following methods:
1) Email: cawemcpa@blm.gov
2) Fax: (951) 697-5299
3) Mail: ATTN: Alan Stein, BLM California Desert District Office, 22835 Calle San Juan de Los Lagos, Moreno Valley, CA 92553-9046

Documents pertinent to this proposal may be examined at the California Desert District Office, address above, or the BLM's California State Office, 2800 Cottage Way, Sacramento, CA 95825. For further information contact: Alan Stein, (951) 697-5382.

--BLM--

http://www.blm.gov/ca/st/en/fo/cdd/newsroom/2011/september/newsmojaveroutevehicle mgmt.html[5/31/2012 10:40:54 AM]

West Mojave Plan Amendment News Release – 12/21/2011

Public Meetings Scheduled to Address West Mojave Desert Routes of Travel Designations (12-21-2011)

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT NEWS RELEASE
California Desert District

Release Date: 12/21/11
Contacts: Stephen Razo, (951) 697-5217 or David Briery , (951) 697-5220

News Release No. CDD-12-17

Public Meetings Scheduled to Address West Mojave Desert Routes of Travel Designations

The Bureau of Land Management (BLM) has scheduled eight public scoping meetings to gather public comments and recommendations on the preparation of environmental assessments for eight travel management areas within the West Mojave Planning Area. These eight travel management areas are identified on the attached map, and each one will be a focus of one of the eight meetings. This information will be used to compile travel management area information and develop preliminary route network alternatives for the West Mojave planning area.

Area residents and other publics interested in the public lands and the area public lands route network are encouraged to attend. Public input relative to local area knowledge, issues and opportunities, including route access changes, are needed.

Meetings for Travel Management Areas under the jurisdiction of the Barstow Field Office will be held at the Barstow Field Office, 2601 Barstow Road, Barstow, CA 92311. Meetings for Travel Management Areas under the jurisdiction of the Ridgecrest Field Office will be held at the Kerr-McGee Bldg, 100 West California Ave, Ridgecrest, CA 93555.

All scoping meetings are from 4:00 p.m. to 7:00 p.m, and include a presentation and an open-house opportunity to review maps and provide route-specific and location-specific comments to the BLM. The public is encouraged to attend the travel management plan meetings to assure that comments are accurately captured, including location, route or site identification, specific issues, and rationale. You may also provide written comments.

- Monday, January 9 TMA 1: Broadwell Lake, Afton Canyon and East of Barstow Signing Subregions in the Barstow Field Office.
- Wednesday, January 18 TMA 2: Sierras, Darwin, and North and South Searles Signing Subregions in the Kerr-McGee Center.
- Thursday, January 26 TMA 3: Juniper, Rattlesnake, Morongo, Wonder Valley and Joshua Tree Signing Subregions in the Barstow Field Office and the northern most portions of PSSC in WEMO.
- Monday, February 6 TMA 4: Jawbone, Middle Knob and Lancaster Signing Subregions in the Kerr-McGee Center.
- Thursday, February 9 TMA 5: WEMO North Barstow Desert Wildlife Management Area Signing Subregions North of I-15 and SR 58 in the Barstow Field Office.
- Tuesday, February 14 TMA 6: Ridgecrest, El Paso, Randsburg and Red Mtn Signing Subregions in the Kerr-McGee Center.
- Thursday, February 16 TMA 7: El Mirage (including Edwards Bowl area), Fremont, and Iron Mountains Signing Subregions South of SR 58 in the Barstow Field Office.
- Tuesday, February 21 TMA 8: Lands adjacent to Stoddard and Johnson OHV Areas, and other Signing Subregions in the Barstow and Needles Field Offices South of I-40 and North of SR 247 including, and East of Interstate I-15.

Preliminary alternatives will be provided for review and public comment after scoping for specific areas are completed. Additional public meetings will be held by the Desert Advisory Council Subgroup currently being formed for the West Mojave Route Network. The public will have the opportunity to participate in these subgroup meetings.

The BLM will consider public comments, as feasible, until the BLM proposed Travel Management Plans are published. For more information or to submit a comment contact: Edy Seehafer, West Mojave Project Manager, Bureau of Land Management, 2601 Barstow Road, Barstow, CA 92311, by email at cawemopa@blm.gov , or by phone at (760) 252-6021. Additional information is also posted at the West Mojave Amendment Website at: http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html. Please respond by April 19, 2012 with scoping comments and/or to be added to the mailing list.

--BLM--

Last updated: 01-06-2012 California Desert District 22835 Calle San Juan de Los Lagos, Moreno Valley, CA 92553

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http://www.blm.gov/ca/st/en/info/newsroom/2011/decembers/CDD1217_wemoscope.html[3/31/2012 10:41:26 AM]

West Mojave Plan Amendment News Release – 01/18/2012

BLM Schedules Meetings to Address West Mojave Desert Routes of Travel Designation

U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT NEWS RELEASE
California Desert District

Release Date: 01/18/12
Contacts: Stephen Razo, 951-697-5217 or
David Briery, 951-697-5220

News Release No. CDD-12-22

BLM Schedules Meetings to Address West Mojave Desert Routes of Travel Designation

The Bureau of Land Management (BLM) has scheduled eight open-house public scoping meetings to gather public comments and recommendations on the preparation of environmental assessments for eight travel management areas (TMAs) within the West Mojave Planning Area.

Area residents and interested members of the public encouraged to attend. The BLM will solicit public input relative to local area knowledge, issues and opportunities, including changes to route access.

Barstow meetings: Barstow Field Office, 2601 Barstow Road, Barstow, CA 92311

- **Thursday, Jan. 26.** TMA 3: Juniper, Rattlesnake, Morongo, Wonder Valley and Joshua Tree signing sub-regions
- **Thursday, Feb. 9.** TMA 5: WEMO North Barstow Desert Wildlife Management Area signing sub-regions north of I-15 and SR 58
- **Tuesday, Feb. 14.** TMA 6: El Mirage (including Edwards Bowl area), Fremont, and Iron Mountains signing sub-regions south of SR 58
- **Tuesday, Feb. 21.** TMA 8: Lands adjacent to Stoddard and Johnson OHV Areas, and other signing sub-regions south of I-40 and north of SR 247 including east of Interstate I-15

Ridgecrest meetings: Kerr-McGee Bldg, 100 West California Ave, Ridgecrest, CA 93555.

- **Wednesday, Jan. 18.** TMA 2: Sierras, Darwin, and North and South Searles signing sub-regions
- **Monday, Feb. 6.** TMA 4: Jawbone, Middle Knob and Lancaster signing sub-regions
- **Thursday, Feb. 16.** TMA 7: Ridgecrest, El Paso, Rands and Red Mtn signing sub-regions

All scoping meetings are from 4 to 7 p.m. and include a presentation and an open-house opportunity to review maps and provide route-specific and location-specific comments to the BLM. The public is encouraged to attend the travel management plan meetings to assure that comments are accurately captured, including location, route or site identification, specific issues, and rationale. You may also provide written comments.

The areas addressed in each of the eight travel management meetings are identified on the attached map. Your scoping information will be used to compile travel management area information and develop preliminary route network alternatives for the West Mojave planning area.

Preliminary alternatives will be posted for review and public comment after scoping for specific areas are completed. Additional public meetings will be held by the Desert Advisory Council Subgroup currently being formed for the West Mojave Route Network. The public will have the opportunity to participate in these subgroup meetings.

The BLM will consider public comments, as feasible, until the BLM proposed Travel Management Plans are published. For more information or to submit a comment contact: Edy Seehafer, West Mojave Project Manager, Bureau of Land Management, 2601 Barstow Road, Barstow, CA 92311, by email at cawemopa@blm.gov, or by phone at (760) 252-6021. Additional information is also posted at the West Mojave Amendment Website at: http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html. Please respond by Apr. 15, 2012 with scoping comments and/or to be added to the mailing list.

--BLM--

California Desert District 22835 Calle San Juan de Los Lagos, Moreno Valley, CA 92553

Last updated: 01-18-2012

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http://www.blm.gov/ca/st/en/info/newsroom/2012/january/WEMOmtgs.html[5/31/2012 10:41:48 AM]

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West Mojave Route Network Project

Scoping Report

Appendix B

Scoping Meeting Materials

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West Mojave Project Comment Form B-20

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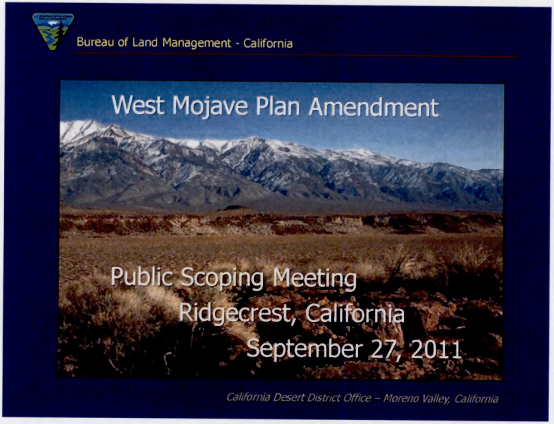
APPENDIX B
SCOPING MEETING MATERIALS

This appendix displays some of the materials used for the West Mojave Route Network Project (Project) scoping meetings. Included are the presentations used at the September 27 and 29, 2011 open house scoping meetings, the presentation used at the January 26, 2012 travel designation workshop, a sample route network map, and a copy of the comment form provided at each scoping meeting. The January 26, 2012 presentation and route network map are examples of the materials used at the Travel Management Area-specific scoping workshops held in January and February 2012. The BLM catered each workshop to a specific Travel Management Area, but for brevity, only one presentation and map was included in this appendix.

Scoping Meeting Presentations – September 27 and 29, 2011


Bureau of Land Management - California
West Mojave Plan Amendment
Public Scoping Meeting
Ridgecrest, California
September 27, 2011
California Desert District Office – Moreno Valley, California

Bureau of Land Management - California
WELCOME !
Why Are We Here ??

Bureau of Land Management - California California Desert District

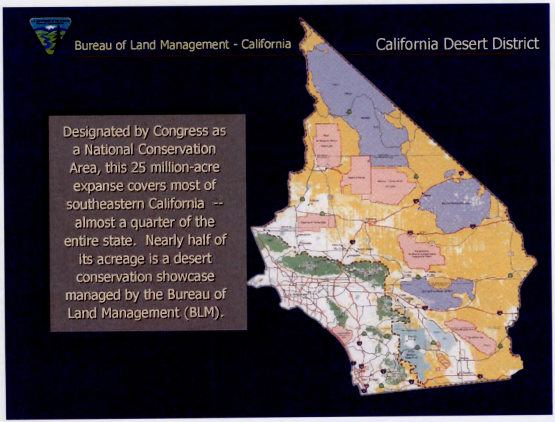
BLM Proposes to:

Reconsider Plan Level Decisions

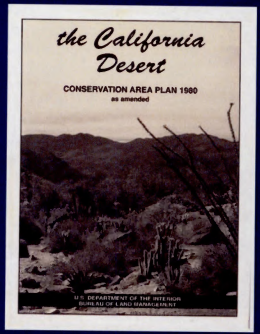
-- amend plan if needed

Reconsider network of routes approved in WEMO (March 2006)

-- consistent with travel management guidance



Bureau of Land Management - California California Desert District



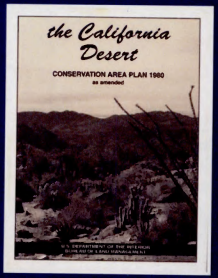
1982 Amendments

Amendment 3
Motorized Vehicle Element

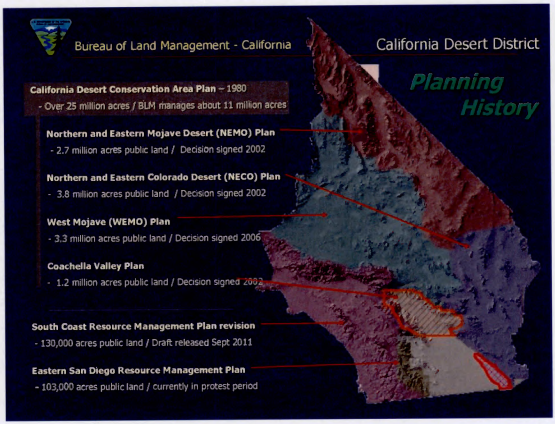
43 CFR 8342.1 –
Designation Criteria
(minimization criteria)

Bureau of Land Management - California California Desert District

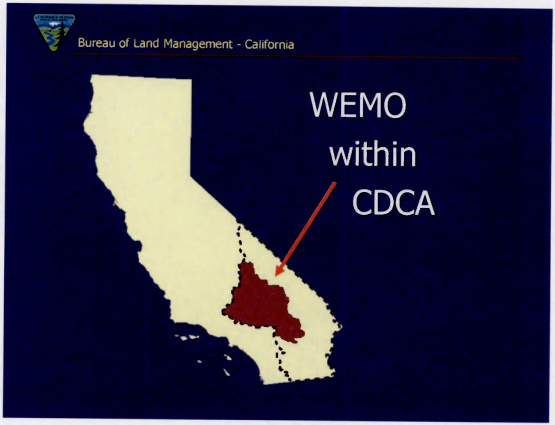
Goal in CDCA Plan 1982 Plan Amendments

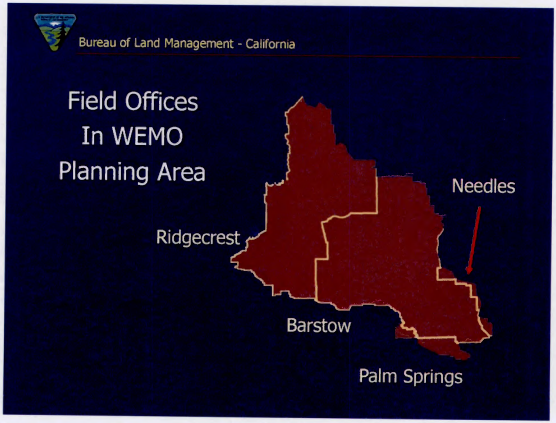


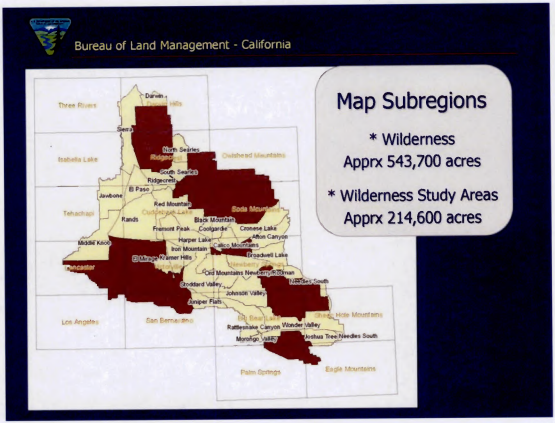
Provide for constrained motorized vehicle access in a manner that balances the needs of all desert users, private landowners and other public resources

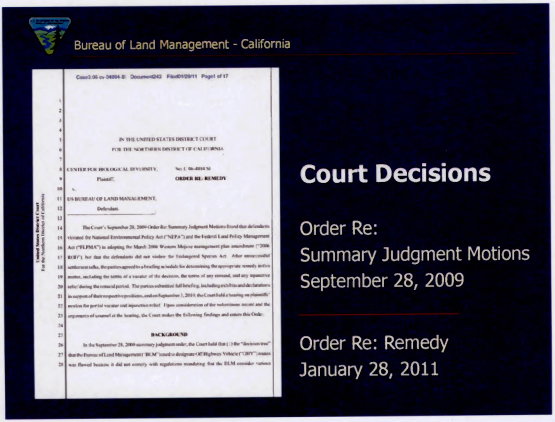

Bureau of Land Management - California
California Desert District
Planning History
California Desert Conservation Area Plan – 1980
- Over 25 million acres / BLM manages about 11 million acres
Northern and Eastern Mojave Desert (NEMO) Plan
- 2.7 million acres public land / Decision signed 2002
Northern and Eastern Colorado Desert (NECO) Plan
- 3.8 million acres public land / Decision signed 2002
West Mojave (WEMO) Plan
- 3.3 million acres public land / Decision signed 2006
Coachella Valley Plan
- 1.2 million acres public land / Decision signed 2002
South Coast Resource Management Plan revision
- 130,000 acres public land / Draft released Sept 2011
Eastern San Diego Resource Management Plan
- 103,000 acres public land / currently in protest period

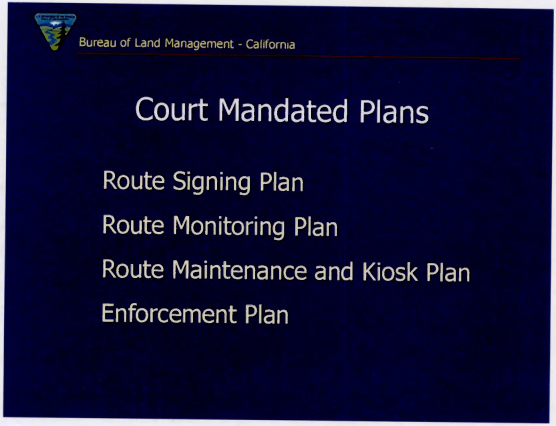
Bureau of Land Management - California
California Desert District
U.S. Department of the Interior
Bureau of Land Management
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
January 2005
Final Environmental Impact Report and Statement for the
West Mojave Plan
A Habitat Conservation Plan and California Desert Conservation Area Plan Amendment
Vol 1A
Record of Decision – March 2006
* 9.4 million acres
* 6.4 million acres public lands
* BLM Field Offices:
Barstow
Ridgecrest
Needles
Palm Springs


Bureau of Land Management - California
WEMO
within
CDCA

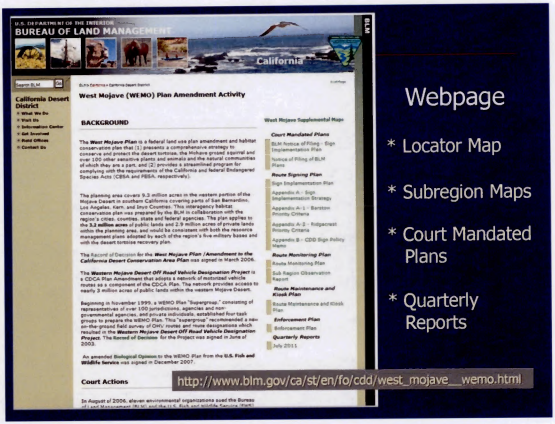

Bureau of Land Management - California
Field Offices
In WEMO
Planning Area
Needles
Ridgecrest
Barstow
Palm Springs

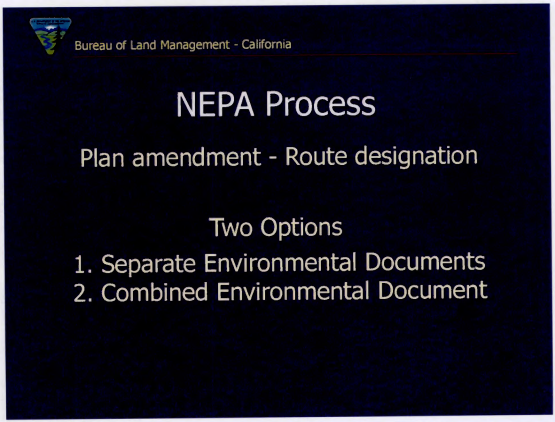

Bureau of Land Management - California
Map Subregions
* Wilderness
Apprx 543,700 acres
* Wilderness Study Areas
Apprx 214,600 acres
Darwin
Three Rivers
Isabella Lake
Sierra
North Searles
Slate Range
Quaking Aspen Canyon
Owlshead Mountains
South Searles
Ridgecrest
El Paso
Jawbone
Red Mountain
Tehachapi
Randsburg
Rands
Fremont Peak
Coso Mountains
Coso Range
Coso Peak
Coso Hot Springs
Coso Wilderness
Coso Canyon
Coso Mountains
Inyokern
Indian Wells Canyon
Broadwell Lake
Middle Knob
Lancaster
Edwards AFB
Palmdale
Palmdale Reservoir
Harper Lake
Iron Mountain
Bissell Mountain
Fremont Valley
Cuddeback Lake
Old Mountains
Newberry Springs
Rodman Mountains
Bicycle Lake
Bicycle Lake Army Airfield
Fort Irwin
Goldstone
Goldstone Deep Space Communications Complex
Broadwell Valley
Johnson Valley
Jasper Flats
Los Angeles
San Bernardino
Rattlesnake Canyon
Wonder Valley
Marine Corps Logistics Base Barstow
Marine Corps Logistics Base Barstow Annex
Bullion Mountains
Bullion Mountains Wilderness
Twentynine Palms
Twentynine Palms Marine Corps Base
Joshua Tree National Park
Joshua Tree Needles South
Palm Springs
Eagle Mountains

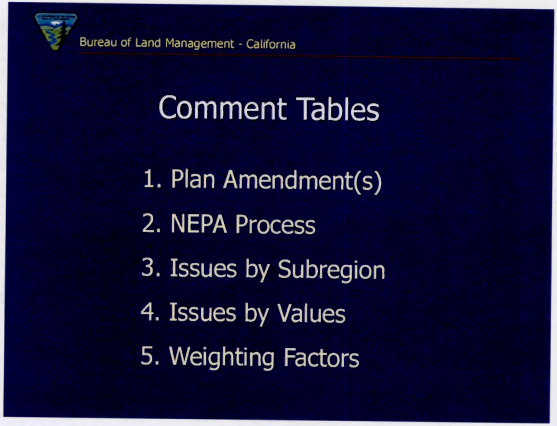

Bureau of Land Management - California
Case3:06-cv-04594-S Document243 Filed01/28/11 Page1 of 17
IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
CENTER FOR BIOLOGICAL DIVERSITY,
Plaintiff,
v.
US BUREAU OF LAND MANAGEMENT,
Defendant.
No. C 06-4884 SI
ORDER RE: REMEDY
The Court's September 28, 2009 Order Re: Summary Judgment Motions found that defendants violated the National Environmental Policy Act ("NEPA") and the Federal Land Policy Management Act ("FLPMA") in adopting the March 2006 Western Mojave management plan amendment ("2006 RAR"), but that the defendants did not violate the Endangered Species Act. After unsuccessful settlement talks, the parties agreed to a briefing schedule for determining the appropriate remedy and to resolve, including the terms of a vacatur of the decision, the terms of any remand, and any injunctive relief during the remand period. The parties submitted full briefing, including evidentiary declarations in support of their respective positions, and on September 1, 2010 the Court held a hearing on plaintiff's motion for partial vacatur and injunctive relief. Upon consideration of the voluminous record and the arguments of counsel at the hearing, the Court makes the following findings and enters this Order.
BACKGROUND
In the September 28, 2009 summary judgment order, the Court held that: (1) the "decision to use" that the Bureau of Land Management ("BLM") issued to designate "Highway Vehicle" ("HV") routes was flawed because it did not comply with regulations mandating that the BLM consider various
Court Decisions
Order Re:
Summary Judgment Motions
September 28, 2009
Order Re: Remedy
January 28, 2011

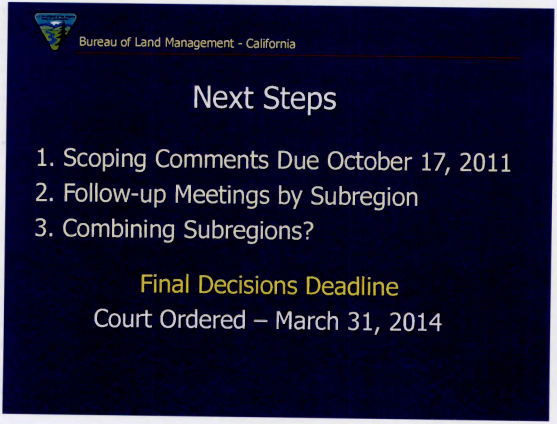

Bureau of Land Management - California
Court Mandated Plans
Route Signing Plan
Route Monitoring Plan
Route Maintenance and Kiosk Plan
Enforcement Plan

Bureau of Land Management - California
Plan Implementation
1. Signing – Signing Completed July 28 2011
2. Maps – Subregion Maps Completed and Posted on Website


U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
California
California Desert District
West Mojave (WEMO) Plan Amendment Activity
BACKGROUND
West Mojave Supplemental Maps
Court Mandated Plans
Route Signing Plan
Route Monitoring Plan
Route Maintenance and Kiosk Plan
Enforcement Plan
Quarterly Reports
Court Actions
http://www.blm.gov/ca/st/en/fo/cdd/west_mojave__wemo.html
Webpage
* Locator Map
* Subregion Maps
* Court Mandated Plans
* Quarterly Reports


Bureau of Land Management - California
NEPA Process
Plan amendment - Route designation
Two Options
1. Separate Environmental Documents
2. Combined Environmental Document


Bureau of Land Management - California
Comment Tables
1. Plan Amendment(s)
2. NEPA Process
3. Issues by Subregion
4. Issues by Values
5. Weighting Factors


Bureau of Land Management - California
Next Steps
1. Scoping Comments Due October 17, 2011
2. Follow-up Meetings by Subregion
3. Combining Subregions?
Final Decisions Deadline
Court Ordered – March 31, 2014

Scoping Meeting Workshop Presentation – January 26, 2012

West Mojave
Travel Management Plan Scoping
Juniper-Rattlesnake-
Wonder V.-Joshua Tree Area

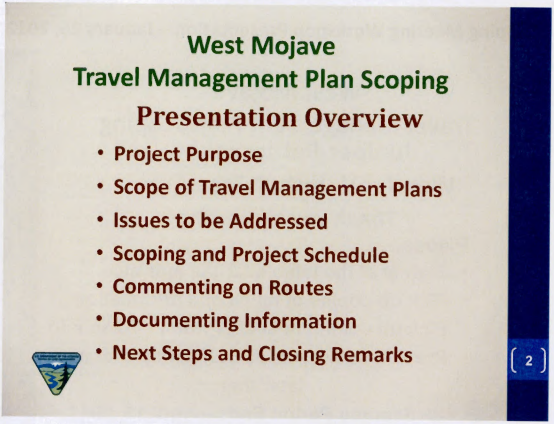
Thank you for coming!

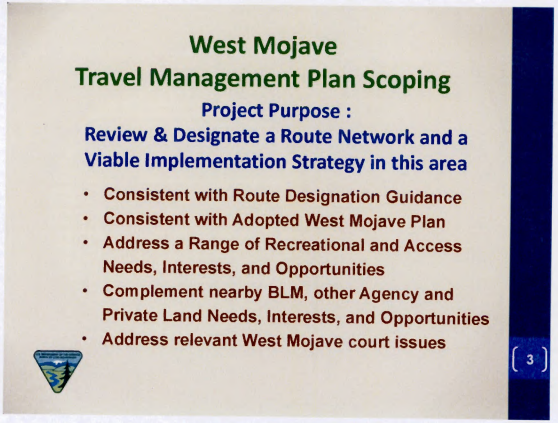
Please…

- **Sign in at the table near the entrance**
- **Pick up copies of maps and information**
- **Pick up comment sheets with address info**
- **Provide comments to BLM tonight, or no later than…**

Scoping Period Ends – April 15, 2012

1


West Mojave
Travel Management Plan Scoping
Presentation Overview
• Project Purpose
• Scope of Travel Management Plans
• Issues to be Addressed
• Scoping and Project Schedule
• Commenting on Routes
• Documenting Information
• Next Steps and Closing Remarks
2


West Mojave
Travel Management Plan Scoping
Project Purpose :
Review & Designate a Route Network and a Viable Implementation Strategy in this area
• Consistent with Route Designation Guidance
• Consistent with Adopted West Mojave Plan
• Address a Range of Recreational and Access Needs, Interests, and Opportunities
• Complement nearby BLM, other Agency and Private Land Needs, Interests, and Opportunities
• Address relevant West Mojave court issues
3

West Mojave
Travel Management Plan Scoping

What are Travel Management Plans?

- Activity-Level Plans (like OHV or ACEC Plans)
- Designate routes in a "Travel Management Area" that is a portion of the West Mojave Area
- Travel Management Areas can be based on geography, issues, and/or network connectivity
- Include Mitigation Measures to minimize impacts
- Have Monitoring & Enforcement Strategies
- Designations may change as route conditions or access needs change based on Activity Plan

4

West Mojave
Travel Management Plan Scoping

Why Travel Management Plans?

- Implementation Tool
- Flexibility
- May Change in Response to Changing Needs and Issues
- Remain Consistent with Goals & Objectives of that travel management planning area

5

West Mojave
Travel Management Plan Scoping

5 Issues BLM Must Address

1. Existing Routes Language, West Mojave Wide
2. How the Required Route Designation Criteria are Applied
3. Expand Range of Alternatives
4. Clarify Baseline Conditions
5. Supplement Documentation or Analyses, and Mitigation Applied for Routes and Network

6

West Mojave
Travel Management Plan Scoping

Meeting Purpose: How You Can Help Tonight

- Which Routes & Trails Better Serve Specific Needs?
- What Information Can You Give Us on the 5 Issues and Routes or Locations in this Area?
  Specificity helps (GPS or route number, name of species, spring, or destination, etc.)
- Can You Give Alternatives if You Identify issues?
- Can You Suggest Mitigation or Strategies to Minimize Impacts from a Route?

7

West Mojave
Travel Management Plan Scoping

Subregion Overview Map

Travel Mgt Area 3: Juniper-Rattlesnake-Morongo Valley-Wonder Valley-Joshua Tree

8

West Mojave
Travel Management Plan Scoping
Schedule of Meetings

MTG	SUBREGIONS	LOCATION	MEETING DATE
1	I-15 to I-40: Afton, Broadwell, E. of Barstow	Barstow Field Office	January 9, 2012
2	N. of Ridgecrest: N. Searles, S. Searles, Darwin, Sierra	Kerr-McGee Center, Ridgecrest	January 18, 2012
3	S. and E. of SR 247: Juniper, Rattlesnake, Joshua Tree, Wonder Valley	Barstow Field Office	January 26, 2012
4	Jawbone, Middle Knob, Lancaster	Kerr-McGee Center, Ridgecrest	February 6, 2012
5	N. of I-15/SR 58: DWMA ACEC in Barstow FO (7 Subregions)	Barstow Field Office	February 9, 2012
6	S. of SR 58/W. of I-15: El Mirage, Kramer Hills, Iron Mtn	Barstow Field Office	February 14, 2012
7	Ridgecrest, El Paso, Red Mtn, Rand Mtns	Kerr-McGee Center, Ridgecrest	February 16, 2012
8	S. of I-40/E. of I-15: Pisgah, Ord Mtn, Newberry-Rodmans, Johnson Valley, Stoddard Valley	Barstow Field Office	February 21, 2012

9

West Mojave
Travel Management Plan Scoping

Meeting Stations: An Aid to Focus Comments

Discuss and Provide Comment on Specific Routes or Locations, & Possible Alternatives

- Needs Satisfied by Specific Routes or Locations
- Types of Recreational Use(s)
- Destination Locations
- Staging or Parking Areas
- Key Corridors
- Other Access Issues

10

West Mojave
Travel Management Plan Scoping

Comment on Criteria Issues, & Possible Avoidance & Mitigation Options

1. Soil, Water, Air, Cultural Issues
2. Wildlife and Habitat, T&E Species
3. Public Safety, Private Land, Authorized or Non-motorized User Conflicts, and Urban Interface Issues (e.g., Noise)
4. Sensitive/Designated Area (Wilderness, ACEC, OHV) Factors and Related Issues

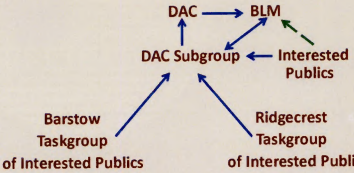
11

West Mojave
Travel Management Plan Scoping
Recording Public Comments:

- Give Route Number, Location Name, and/or Map Location, if known
- If it is a specific route with no WEMO route #, ask a BLM data steward to get the number
- Indicate if it is a General Issue
- If a Site-Specific Issue, Conflict, or Opportunity, provide Area or Route Details, and why it is an issue
- Alternative, Avoidance or Mitigation Options
- Check Information for Accuracy

12

West Mojave
Travel Management Plan Scoping
Desert Advisory Council (DAC)
WEMO Route Network Project Subgroup



13

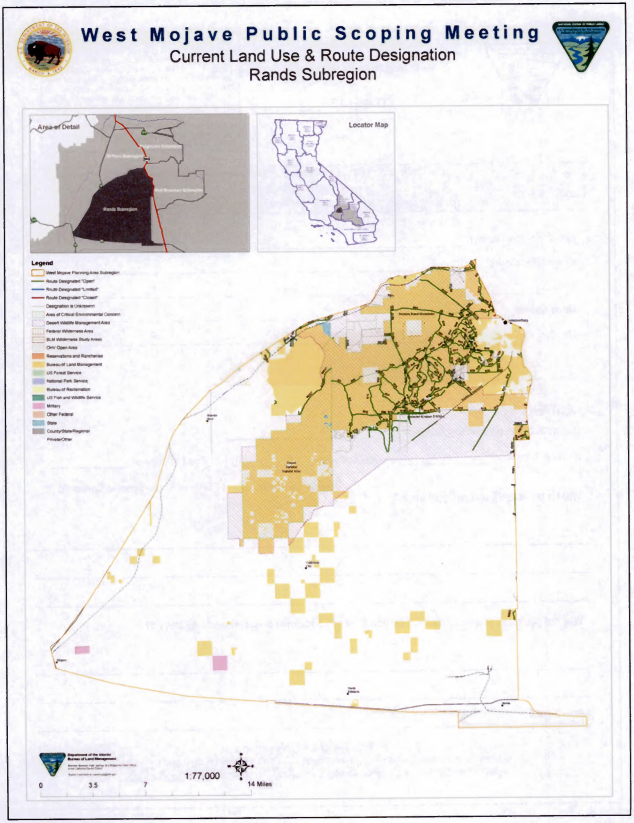
West Mojave
Travel Management Plan Scoping
Thanks for Your Interest and Comments

- You Can Provide Comments Tonight,
- Send in Comments by April 15, 2012 (mail or website), and
- Attend other scoping meetings to give additional comments,
- The Desert Advisory Council Subgroup will be providing another opportunity for public input
- Draft Travel Mgt Plans due out later this year

Deadline for all Final Plan Decisions is March 31, 2014

14

Travel Designation Workshop Route Network Map – Rands Subregion



West Mojave Project Comment Form

Bureau of Land Management
Open House Public Meetings
West Mojave Route Designations

COMMENTS

Note: Before including your address, telephone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you may ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. All submissions from individuals identifying themselves as representatives or officials of organizations or businesses will be made available for public inspection in their entirety.

Thank you for participating in today's Public Scoping Meeting on the
WEMO Route Designations
Your comments on the scope and focus of the environmental review are encouraged.

Name (please print legibly): _____

Affiliation (if applicable): _____

Phone: _____ Email: _____

Mailing Address: _____

City, State, Zip: _____

CN # ☐ _____
Staff Use

COMMENTS:

Map or Subregion Name and Number _____

Route #, if known _____ **Grid Location** _____ **Point of Interest** _____

General Comment ☐ **Site- or Route-Specific Comment** ☐

What is the Issue/Concern/Opportunity?

_____

_____

_____

Why did you make this Comment and Do you have any additional Suggestions to Address it?

_____

_____

_____

Turn in Comments during this meeting or
Send comments to: West Mojave Route Network Project, Attn: Charlee Christe, WEMO Routes Project Team, 22835 Calle San Juan De Los Lagos, Moreno Valley, CA 92553 or by e-mail at cawemopa@blm.gov

Appendix C

Scoping Comments

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Table C-2. Scoping Comments by Comment Category C-8
NEPA Process C-8
Livestock Grazing C-15
Route Designation Process C-16
43 CFR 8342.1(a) – Route Designation Criterion A C-27
43 CFR 8342.1(b) – Route Designation Criterion B C-28
43 CFR 8342.1(c) – Route Designation Criterion C C-33
43 CFR 8342.1(d) – Route Designation Criterion D C-34
Network Purpose and Need C-35
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Travel Management Area 2 ..... C-71
Travel Management Area 3 ..... C-77
Travel Management Area 4 ..... C-83
Travel Management Area 5 ..... C-86
Travel Management Area 6 ..... C-88
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Travel Management Area 8 ..... C-93
Out of Scope C-94

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APPENDIX C
SCOPING COMMENTS

Table C-1 includes all comment documents received by the Bureau of Land Management (BLM) during the scoping period and indicates the assigned document number.

Table C-1. Commenters Listed by Document Number

Document Number	First Name	Last Name	Organization
1001	Kim	Erb	American Lands Access Association; Searchers
1002	Thomas	Egan	The Alliance for Responsible Recreation
1003	Mark	Algazy	No affiliation
1004	Jim	Allen	No affiliation
1005	Donn	Nay	AMA District 37
1006	Ileene	Anderson	Center for Biological Diversity
1007	Ken	Baez	No affiliation
1008	Ty	Bailey	No affiliation
1009	David	Beaumont	Mojave Trails Group
1010	David	Beaumont	Mojave Trails Group
1011	David	Beaumont	Mojave Trails Group
1012	Chuck	Bell	No affiliation
1013	Scott	Spencer	Jawbone Canyon Store trail System Team
1014	Vern	Biehl	No affiliation
1015	H. Marie	Brashear	Society For The Protection and Care of Wildlife
1016	H. Marie	Brashear	Society For The Protection and Care of Wildlife
1017	H. Marie	Brashear	Society For The Protection and Care of Wildlife
1018	Terry	Brown	Stewards of the Sequoia
1019	Dr. Don	Buchanan	No affiliation
1020	Tom	Budlong	No affiliation
1021	Justin	Burleson	No affiliation
1022	John	Steward	California Association of 4 Wheel Drive Clubs
1023	Steve	Egbert	California Association of 4 Wheel Drive Clubs
1024	Jack	Caufield	No affiliation
1025	Ileene	Anderson	Center for Biological Diversity
1026	Michael	Connor	Western Watersheds Project
1027	Amy	Granat	California Off-Road Vehicle Association
1028			Capital Trail Vehicle Association
1029	Ralph	Deckard	No affiliation
1030	Ralph	Deckard	No affiliation
1031	Ralph	Deckard	No affiliation
1032	Michael	DeJohn	No affiliation
1033	Terri	Pencovic	California Department of Transportation
1034	Sid	Silliman	Desert Tortoise Council
1035	Martin	Daugherty	Long Beach Mineral and Gem Society

Table C-1. Commenters Listed by Document Number

Document Number	First Name	Last Name	Organization
1036	Robin	Down	No affiliation
1037	Steven	Dunn	No affiliation
1038	David	Flaker	No affiliation
1039	Almut	Fleck	No affiliation
1040	Leonard	Fox	No affiliation
1041	Edith	Frick	No affiliation
1042	Jenny	Wilder	Friends of Juniper Flats
1043	Robert	Gerber	No affiliation
1044	Kathy	Goss	No affiliation
1045	Kathleen	Goss	No affiliation
1046	Jenny	Wilder	Friends of Juniper Flats
1047	Jenny	Wilder	Friends of Juniper Flats
1048	Jim	Wooddell	No affiliation
1049	Bryan	Widholm	No affiliation
1050	Bryan	Widholm	No affiliation
1051	Charles	Hattendorf	The Friends of Last Chance Canyon
1052	Charles	Hattendorf	The Friends of Last Chance Canyon
1053	Jeri	Heiser	No affiliation
1054	Carlos	Hernandez	No affiliation
1055	Mark	Heuston	No affiliation
1056	John	Hill	VV Gem and Mineral Club
1057	David	Hubbard	Gatzke Dillon & Balance LLP
1058	Brendan	Hughes	No affiliation
1059	Ahmed	Mohsen	Informed Decisions Environmental Solutions
1060	Susan	Cash	Inyo County Board of Directors
1061	Norman	Beze	No affiliation
1062	Karen	Jenson	No affiliation
1063	Robert	Jump	No affiliation
1064	Frank	Keeney	No affiliation
1065	Keith	Axelson	Sageland Ranch
1066	Cyndy	Kelso	No affiliation
1067	Michael	Kemp	High Desert Trail Riders
1068	Tom	Laymon	Desert Tortoise Council, Sierra Club
1069	Bill	Lembright	No affiliation
1070	Chris	Lesso	No affiliation
1071	Will	Liebscher	No affiliation
1072	Todd	Loiselle	No affiliation
1073	Gregor	Losson	No affiliation
1074	Denise	Lupear	No affiliation
1075	Jim	Macey	No affiliation
1076	Ian	MacMillan	South Coast Air Quality Management District

Table C-1. Commenters Listed by Document Number

Document Number	First Name	Last Name	Organization
1077	D.J.	Maginity	No affiliation
1078	Will	Marcy, Jr.	No affiliation
1079	Agustin	Melendez	No affiliation
1080	Kial	Hojnacki	No affiliation
1081	Sophia	Merk	NPL News
1082	Martin	Milas	Prospectors Club of Southern California
1083	Pam	Miller	Bear Valley Springs Horsemen
1084	Julie	Mitchell	No affiliation
1085	Mike	Rath	No affiliation
1086	Barry	Murphy	No affiliation
1087	Sophia	Merk	NPL News
1088	Douglas	Nguyen	No affiliation
1089	Wayne	Nosala	No affiliation
1090	Tim	Nowak	No affiliation
1091	Chester	Nowicki	Treasure Seekers of San Diego County
1092	Todd	Ockert	No affiliation
1093	Edwin	Oh	No affiliation
1094	Daphne	Green	CA Dept. of Parks and Recreation OHMVR Division
1095	Doug	Parham	Landowners Association Western San Bernardino County
1096	Doug	Parham	Landowners Association Western San Bernardino County
1097	Paul	Pearson	Wonder Valley
1098	Minki	Peterson	No affiliation
1099	Phil	Pulley	Ojai Valley Dirt Riders
1100	Clayton	Miller	Recreational Access Council of California
1101	Mesonika	Piecuch	ORV Watch Kern County
1102	Mark	Raiche	No affiliation
1103	Robert	Reynolds	No affiliation
1104	Shane	Rucker	No affiliation
1105	Shane	Rucker	No affiliation
1106	Ron	Schiller	High Desert Multiple Use Coalition
1107	Tom	Shackelford	No affiliation
1108	Steve	Scheftel	No affiliation
1109	Patrick	Shreffler	No affiliation
1110	B.A.	Skipper	No affiliation
1111	Randy	Banis	DAC
1112	Ron	Schiller	No affiliation
1113	Vince	Eyre	Team True Racing
1114	Mary	Grimsley	Gear Grinders 4WD Club
1115	W	Maddux	Gear Grinders 4WD Club
1116	Sophia	Merk	NPL News
1117	Jerry	Counts	No affiliation

Table C-1. Commenters Listed by Document Number

Document Number	First Name	Last Name	Organization
1118	Kathy		No affiliation
1119	James	Kenney	No affiliation
1120	Bill	Maddux	WEMO Subgroup
1121	Jim	Wilson	Lost Coyotes
1122	Jay	Young	Team True Racing
1123	Clayton	Miller	No affiliation
1124	Jana	Ostler	No affiliation
1125	Joe	Conway	No affiliation
1126	Don	Decker	No affiliation
1127	Gregory	Elwood	No affiliation
1128	Greg	Oberst	No affiliation
1129	Randel	Paulsen	No affiliation
1130	Sleepy Bear Mining LLC		Sleepy Bear Mining LLC
1131	Carl	Zorzi	No affiliation
1132	David	Whistler	No affiliation
1133	Allen	Wensman	No affiliation
1134	Edward	Waldheim	CORVA
1135	James	Van Sickle	No affiliation
1136	John	Tucker	No affiliation
1137	Rick	Townsend	No affiliation
1138	Bill	Tomlinson	No affiliation
1139	La Vella	Tomlinson	No affiliation
1140	Ross	Termin	No affiliation
1141	Dean	Sweet	No affiliation
1142	Robert	Strub	No affiliation
1143	Jack	Stone	No affiliation
1144	Douglas	Parham	Landowners Association Western San Bernardino County
1145	Earl	Wilson	China Lake Astro Society
1146	James	Kenney	No affiliation
1147	Dowal	Zorzi	No affiliation
1148	Randy	Banis	DAC
1149	Chuck	Bell	Ord. Mt. Cattle Allotment
1150	William	Brock	Lone Wolf Colony
1151	Susan	Carlton	SNEI
1152	Eyre	Vince	Team True Racing
1153	Betty	Munson	Johnson Valley Improvement Association
1154	Judy	Qualm	High Desert Gold Diggers
1155	Ken	Schulte	No affiliation
1156	Rick	Sebo	CORVA
1157	Jerry	Counts	No affiliation
1158	Karl	Zellner	Indian Wells Valley Gem and Mineral Society

Table C-1. Commenters Listed by Document Number

Document Number	First Name	Last Name	Organization
1159	Gregon	Losson	No affiliation
1160	Jim	Wilson	Lost Coyotes
1161	Deveree	Kopp	USFS San Bernardino National Forest
1162	Anonymous	Anonymous	No affiliation
1163	Edward	Waldheim	No affiliation
1164	Edward	Waldheim	No affiliation
1165	M.J.	Treece	No affiliation
1166	Tyler	Hunter	No affiliation
1167	Allyson	Hyfill	No affiliation
1168	Melanie	Hyfill	No affiliation
1169	William	Hyfill	No affiliation
1170	Jammie	Bratton	No affiliation
1171	Len	Fox	No affiliation
1172	Lisa	Gage	No affiliation
1173	Robert	Gage	No affiliation
1174	Tony	Nardi	No affiliation
1175	Tony	McNeal	No affiliation
1176	Cutis	Melton	No affiliation
1177	Craig	Weisman	No affiliation
1178	Deanna	Marsh	No affiliation
1179	Donna	Schrank	No affiliation
1180	Ted	Beauregard	No affiliation
1181	Scott	Garrett	No affiliation
1182	Thomas	Larson	AMA Life Member
1183	Robert	Krattiger	No affiliation
1184	Mark	Edwards	No affiliation
1185	Shawn	Gallagher	No affiliation
1186	Ted	Dykman	No affiliation
1187	Alan	Gosselin	No affiliation
1188	Ali	White	No affiliation
1189	Scott	Spencer	Jawbone Canyon Store
1190	Scott	Spencer	Jawbone Canyon Store
1191	Tamara	Candill	No affiliation
1192	K	McNeal	No affiliation
1193	Jennifer	Kearney	No affiliation
1194	Tori	Garza	No affiliation
1195	Jennifer	Seeder	No affiliation
1196	Brian	Soriano	No affiliation
1197	JoAnn	Holguin	No affiliation
1198	Jeff	Walters	No affiliation
1199	Morgan	LaRock	No affiliation

Table C-1. Commenters Listed by Document Number

Document Number	First Name	Last Name	Organization
1200	Kevin	Ford	No affiliation
1201	Merrill	Smith	No affiliation
1202	Rich	Souza	No affiliation
1203	Colyer	Gould	No affiliation
1204	Jesse	Mead	No affiliation
1205	Gayle	Jackson	No affiliation
1206	Brent	Jackson	No affiliation
1207	James	Sweet	No affiliation
1208	Raymond	Hapeman	No affiliation
1209	Robert	Taylor	No affiliation
1210	Scott	Taylor	No affiliation
1211	Jack	Violante	No affiliation
1212	Kirby	Nelson	No affiliation
1213	Shawn	Monahan	No affiliation
1214	Benjamin	Cooper	No affiliation
1215	Mason	Marquez	No affiliation
1216	James	Sigman	No affiliation
1217	Christopher	Baurer	No affiliation
1218	Allen	Mowry	No affiliation
1219	Jim	Wilson	No affiliation
1220	Ben	Acuna	No affiliation
1221	Michael	Schwager	No affiliation
1222	Mario	Salice	No affiliation
1223	Rusty	Phillips	No affiliation
1224	Jon	Sudtell	No affiliation
1225	Michelle	Hopkins	No affiliation
1226	Sandra	Bilewitch	No affiliation
1227	Daniel	Seeder	No affiliation
1228	Fred	Steele	No affiliation
1229	Mark	Lawless	No affiliation
1230	Kurt	Lowe	No affiliation
1231	Vincent	Trino	Dirt Diggers MC
1232	Rayven	Noriega	No affiliation
1233	Ray	Noriega	No affiliation
1234	Craig	Friesen	No affiliation
1235	Ron	Pilling	AMA / Former D-37 Desert
1236	Brian	Chatterton	No affiliation
1237	Roger	Carender	No affiliation
1238	Mike	Galaz	No affiliation
1239	Sid	Williams	No affiliation
1240	Michelle	Schoneman	No affiliation

Table C-1. Commenters Listed by Document Number

Document Number	First Name	Last Name	Organization
1241	John	Sherman	No affiliation
1242	Rick	Lundin	Checkers MC
1243	Ron	Wachter	No affiliation
1244	Tabatha	Scheinost	No affiliation
1245	Missy	Seeder	No affiliation
1246	Anthony	Salagado	No affiliation
1247	Edward	Waldheim	Friends of Jawbone
1248	Jay	Young	USDR, Team True Racing, D37
1249	Stephanie	Weigel	No affiliation
1250	Carol	Wiley	Sierra Club
1251	Jill	Bays	Transition Habitat Conservancy
1252	Mesonika	Piecuch	ORV Watch Kern County
1253	Lee	Jesmain	No affiliation
1254	Robert	Reynolds	No affiliation
1255	Everett	Lindsay	University of Arizona
1256	James	Wilson	Lost Coyotes
1257	Marie	Brashear	No affiliation
1258	Ron	Kauffman	Hi Desert Gold Diggers
1259	Jack	Strayhorn	No affiliation
1260	Robert	Reynolds	No affiliation
1261	Don	Buchanan	San Bernardino Valley College
1262	Greg	Oberst	No affiliation
1263	Marilyn	Nitz	Palo Verdes Gem and Mineral Society
1264	Marilyn	Nitz	Palo Verdes Gem and Mineral Society
1265	William	Mitchell	No affiliation
1266	Douglas	Close	Palo Verdes Gem and Mineral Society
1267	Mary	Kotschwar	Desert Tortoise Preserve Committee Inc.
1268	Elaine	Cornish	No affiliation
1269	Judith	Qualm	High Desert Gold Diggers
1270	Kathy	Goss	No affiliation
1271	Mark	Heuston	No affiliation
1272	Julie	Hendrix	No affiliation
1273	Judith	Greenburgh	No affiliation
1274	Myriam	Lemarchand	No affiliation
1275	Chris	West	No affiliation
1276	Pierre	Valeille	No affiliation
1277	Kathy	Goss	No affiliation
1278	Earl	Wilson	China Lake Astro Society
1279	Kathy	Davis	No affiliation
1280	Jim	Wilson	Lost Coyotes
1281	Jack	Stone	Project Darwin LLC

Table C-1. Commenters Listed by Document Number

Document Number	First Name	Last Name	Organization
1282	Jerry	Thompson	No affiliation
1283	Leila	Pendergast	No affiliation
1284	D'Anne	Albers	Community ORV Watch Steering Committee
1285	Carmen	Groff	No affiliation
1286	Wes	Torgerson	No affiliation
1287	Kim	Erb	American Lands Access Association; Searchers
1288	Greg	Hoffman	San Bernardino National Forest
1289	Diane	Noda	U.S. Fish and Wildlife Service
1290	Tom	Budlong	No affiliation
1291	John	Gilkerson	No affiliation
1292	Mesonika	Piecuch	ORV Watch Kern County
1293	Cathy	Armstrong	No affiliation
1294	Janie	Walters	No affiliation
1295	Mark	Algazy	No affiliation
1296	H. Marie	Brashear	No affiliation
1297	Sophie	Merk	No affiliation

Table C-2 includes the comment document number and each comment made during scoping, reproduced as they were received by the BLM and organized by comment category. To identify the name of the person and/or organization who submitted a comment, locate the corresponding document number in Table C-1.

Table C-2. Scoping Comments by Comment Category

Document Number	Comment Text
NEPA Process	
1001	The maps provided by the BLM at the public meetings did not list important landmarks and road names that are necessary for the public to be able to identify on those maps the routes and areas of importance to them and regarding which they would like to provide comments. In addition, the scale of the maps was inconsistent and frequently such that one could not find the locations they sought to locate on the maps. For these reasons, the information provided in connection with the WEMO route plan is inadequate and insufficient and therefore non-compliant with NEPA. More detailed maps of reasonable scale with easily identifiable landmarks, roads and boundaries should be provided to the public to allow sufficient information for the public to be able to comment on this matter.
1001	The public meeting format utilized for this process does not allow for verbal comments that are on the record, and does not encourage open discussion, exchange and comments. In addition, the meetings were held at great distance from most of the geographic areas affected and the greatest numbers of the public who use the public lands that are the subject of this process. For these reasons, they did not meet the requirements of NEPA. The BLM should hold public meetings that provide time for verbal comments on the record by the public in order to properly satisfy NEPA requirements.
1002	While minor modifications "must be documented in the official record" (BLM 2005a), the public is likely to be inadequately informed of any route change BLM cares to implement using this approach. In controversial route designation changes, use of this approach simply cannot be construed as a management plan being "maintained as necessary to reflect minor changes in data" (FLPMA Section 1610.5-4). Such an approach does not disclose information on a potentially controversial agency decision, nor does it constitute close coordination with the public. Consequently, it specifically conflicts with direction outlined in the Motorized Vehicle Access Element of the CDCA Plan. The expressed allowance for "minor modifications" in the WEMO Plan FEIS also certainly does not further the transparency of federal

Table C-2. Scoping Comments by Comment Category

Document Number	Comment Text
	agency processes, as mandated by the Open Government Directive (OMB 2009).
1002	No opportunity for public involvement was provided relative to the above "minor modifications", nor was there any disclosure to the public about decision rationale. In another instance of "minor modifications", route numbering system changes have been applied in the El Mirage, Ord and Juniper subregions following adoption of the WEMO Plan. These changes make it extremely difficult to track WEMO Plan decisions and rationale applied in designating individual routes. No "crosswalks" or other means of informing the public about how these numbering changes tie back to WEMO Plan have been disclosed. The public has not been informed if/where any other "minor modifications" have been made since WEMO Plan adoption.
1002	All citizens, including special interests, private landowners and local governments, should be provided an equal opportunity to participate in route designation and vehicle use management programs.
1002	Per the WEMO record, very little outreach or coordination with non-motorized users occurred to ensure conflicts between motorized and non-motorized uses were minimized.
1002	Areas of mixed and/or checkerboard land ownership are difficult to address in a route designation process, or to adequately manage following the adoption of a vehicle route network. Whereas the BLM is required to provide basic vehicle access to public lands, the agency faces a daunting task in not promoting vehicle trespass on interspersed or adjacent private lands. It is incumbent upon BLM to coordinate closely with affected private land owners early in the route designation process; rather than belatedly consider private property owner concerns only through the short protest time period following such planning efforts. Quite simply, private landowners should be consulted prior to BLM designating open routes to the edge of private property or posting signs/kiosks on private land. Acting as a good neighbor should be a paramount consideration in route designation planning efforts. Further, where vehicle access to or across private lands is denied by a landowner, any routes promoting trespass should be closed and effectively rehabilitated by BLM in a timely manner.
1005	D37 encourages the BLM to use this period of mandated reanalysis to incorporate a more accurate picture of OHV usage in WEMO, and use site-specific information to designate trails that were not included in the original plan, citing public need and the need to lessen on the-ground impacts as one of the criteria for designation. Rather than look at this court mandated process as onerous or difficult, the agency can take advantage of the wealth of knowledgeable enthusiasts willing to participate in process. Using stakeholders as a resource will enable the agency to produce a well-balanced plan more likely to stand up to legal scrutiny. It is only by using the accurate information and site-specific analysis that the BLM can hope to have a plan that stands up to the public needs, court mandates and NEPA requirements.
1006	The NEP A analysis should be contained in a single Environmental Impact Statement (EIS) that addresses all of the issues that need to be addressed by BLM during the remand-- not just route designation. For example, BLM should also include in the analysis updated information regarding air quality, potential impacts to plants and animals currently under Endangered Species Act protections, impacts to soils, air quality, water resources, riparian areas, UP As, and other resources of the CDCA as well as additive and cumulative impacts to these species from other threats.
1006	The BLM cannot adequately address the impacts of route designation in the West Mojave planning area of the CDCA by segmenting the analysis for example by looking at route designation alone in isolation from grazing, industrial scale development of renewable energy, or other threats to species and habitats.
1012	The process must include stakeholder participation – with every option "on the table"
1015	BLM has confused the public as to the correct date on which the scoping comment period ends. The notice in the Federal Register states the end date as October 13, 2011. At the public meeting in Ridgecrest it was announced that the ending date was October 17, 2011.
1015	NEPA requires that all relevant data be available to the public. Numerous documents are mentioned as available at BLM Moreno Valley and Sacramento, California only. Not all the public or even a significant portion of those wishing to comment can get to Moreno Valley or Sacramento, California. These documents should be posted on the BLM WEMO website.
1016	The BLM needs to complete an EIS for each of the sub-regions, not a planned EA. The BLM should not plan to complete only an EA for each sub-sub-region either. Issues in each sub-region and sub-sub-region, other

Table C-2. Scoping Comments by Comment Category

Document Number	Comment Text
	than route designation and which may impact route designation, are different and must be examined in their entirety.
1016	BLM's plan to make the WEMO route designation/Travel Management Plan(s) so adaptive that they can close a road or open a road without public participation would violate FLPMA and NEPA as well as the CDCA Plan's commitment to the public for an open and transparent decision making process. The Society believes that at a minimum an EA, with Federal Register notice, must be utilized to close or open a route. The WEMO amendment must include a process to add, open, limit, or close a route.
1016	Within the WEMO area there are multiple counties which have asserted their RS2477 rights of way. The Society has been told by BLM that they are negotiating to resolve this issue. However, I cannot find anyone in any county who can tell me about these negotiations. Again, the public has not been given all the information needed to make recommendations and this is another violation of NEPA.
1016	None of these sub-region meetings qualified as "scoping" within NEPA guidelines. Each sub-region still requires the holding of a scoping meeting because the issues are significantly complex and differ within each sub-region. The BLM has not given the public its reasoning behind the grouping of sub-sub-region and sub-region groupings.
1016	The information provided by BLM changed meeting to meeting. However, none of this BLM information related in any way to the individuality of each sub-sub-region or subregion except for a request for roads which people thought should be retained or closed and why this was so. At each meeting the information provided by BLM became more complete as to BLM's procedures with respect to adding or deleting routes to the process. At NO meeting were all members of the public able to provide to BLM, routes they wanted included as open or closed.
1016	The maps initially provided by BLM were and are not useable. The scale of the maps changes map to map. No features were identified. Roads are not shown and roads which do not exist are shown. Even people familiar with the 33 sub-sub-regions could not identify which roads were which. There was one person who attended most of the "scoping/open houses" and at the end of the eighth meeting still had not been able to provide the GIS technicians with roads he was concerned about.
1017	The footprint created by future projects in the CDCA will further fragment the existing road and trail system by severing existing routes of travel thus excluding the public from the areas within project boundaries and the lands near by. The EIS must look at and the final document must amend the Vehicle Access Element to provide that each future project shall provide environmental analysis for however many work-arounds as are necessary to reconnect the severed access.
1017	It is difficult to provide scoping comments when the BLM has not selected how it wants to do things under NEPA or FLPMA and the public is provided with no clear idea but is left to look at a mishmash of thoughts. Clearly the BLM wants to amend the motorized vehicle access element of the CDCA plan and the court has ordered a redo of route designation. Beyond that nothing is evident. It appears that the BLM also wants to amend other portions of the CDCA Plan WEMO amendment, but it is not exactly clear as to where, when, which, how, etc. and therefore is a violation of NEPA process.
1017	The U. S. Department of Energy and BLM and DRECP, Renewable Energy plans must be integrated into the route designation and amendment processes.
1017	The West Mojave Desert Off Road Vehicle Designation Project book indicates that the Sub-Regions do not match. The Notice and the new BLM maps show us 33 sub-regions. The old Off Road Vehicle Designation Project had 20 subregions. This kind of deception adds to the public's confusion and makes it impossible to comment in an informed manner as required by NEPA.

Table C-2. Scoping Comments by Comment Category

Document Number	Comment Text
1017	NEPA requires that all relevant data be available to the public. Numerous documents are mentioned as available at BLM Moreno Valley and Sacramento, California only. Not all the public or even a significant portion of those wishing to comment can get to Moreno Valley or Sacramento, California. These documents should be posted on the BLM WEMO website.
1017	NEPA requires more specificity be provided to the public from whom scoping comments are sought therefore this scoping process is significantly flawed.
1024	The meeting locations are completely inadequate for the public to attend when the area includes parts of three counties! Meetings should at a minimum be in each of the counties and in populated areas.
1026	Unfortunately, neither the news release nor the CDDC website explains the relationship between the planning for these eight TMAs and the previously announced (September 13, 2011 Federal Register) EIS/Proposed Plan Amendment for the West Mojave. Nor is there an explanation for how the areas within these eight TMAs were determined. Nor is there an explanation as to why the BLM will be preparing eight EAs rather than a single EIS. Because there is no cumulative effects analysis to tier off, producing eight separate EAs seems a problematic approach that will result in much additional work for the BLM and may result in the BLM (or the courts) concluding that an EIS is required. The BLM must clearly explain to the public what it is trying to do.
1026	Because of the extent of motorized recreational activities in these desert lands and the inherent conflicts with multiple sensitive resources, the BLM should immediately initiate the preparation of the required EIS.
1026	The current route designation effort on the 3.2 million acre West Mojave planning area has been driven by the BLM's prior failure to prepare an EIS for the original WEMO Route Designation process and the ensuing lawsuits. Given that the BLM is now soliciting suggestions for the designation process and for decision criteria for the route designation process that 5 years ago it claimed it had completed whatever action the BLM takes in this process, including "no action", it will clearly be considered "highly controversial" by stakeholder groups, by the general public, and by the courts. In addition to the public controversy there is considerable scientific controversy given the uncertain effects of climate change on desert habitat and resources, and the vagaries of the ever-evolving state and federal energy policies.
1026	BLM has been compelled by the courts to complete this process within a certain period of time. Unfortunately, there are other major planning efforts such as the DRECP and the Solar PEIS that are currently underway that will have significant cumulative effects on many of the same resources that are impacted by the outcome of this route designation process. Thus, the cumulative effect of route designation and these other projects and planning efforts is highly uncertain. The BLM should immediately initiate the preparation of the required EIS.
1026	The planning area is rich in significant scientific, cultural, and historical resources. Existing routes pass through cultural sites and even National Register sites. There is additional uncertainty because much of the planning area has yet to be surveyed. Given the extent of the existing route network, the BLM's action will have adverse effects on some cultural resources. For this reason BLM should immediately initiate the preparation of the required EIS.
1026	Much of the planning area is habitat for the state and federal threatened desert tortoise. A considerable amount of the area is also designated as desert tortoise critical habitat. There are other critical habitats and listed species within the planning area. The BLM's action in this project will affect the desert tortoise and other listed species and may adversely modify critical habitat. For this reason BLM should immediately initiate the preparation of the required EIS.
1026	The BLM needs to clarify what additional NEPA analysis and planning efforts it will be proposing to address the other deficiencies in the 2006 Plan so that the public can be fully informed and to provide the context for meaningful public input and for meaningful analysis of the effects of any proposed actions.
1028	We request that this planning project include adequate research of the county records and adequate formal consultation and coordination with the county to get their input on RS 2477 routes.
1034	Third, because amendment of the WEMO area plan carries implications for the Federally-threatened desert tortoise as well as other special status species, the BLM should prepare an environmental impact statement rather than an environmental assessment. The anticipated level of impacts of route designations warrant a full environmental review.
1037	The complexities of planning efforts within the WEMO region require that this Proposed Action be conducted as a full Environmental Impact Statement taking into account all existing and

Table C-2. Scoping Comments by Comment Category

Document Number	Comment Text
	proposed planning efforts within the region.
1045	The current process certainly needs to be done as an EIS, with the presentation of a range of options for designating routes in the WEMO area. Also, as a resident of Darwin, I am very concerned that decisions might be made by administrative and staff people who are not familiar with the many uses that are served by the roads in my area. Only local residents are aware of the present and contemplated future needs for these routes, and they should have the opportunity to provide input in a meaningful way.
1045	In Southern Inyo County, we have had little opportunity to participate in readily accessible meetings or have access to materials that are apparently not available on line. If the NEPA process is being followed, every step should be transparent and involve public participation. The only way to ensure these desirable goals is to implement a full EIS.
1046	the maps available to the public have been inadequate.
1046	It is important for people to be given the opportunity to comment at public meetings and have their comments recorded at the scoping meetings. Please provide a public comment period in all future public scoping meetings.
1047	One area in particular is the Juniper Sub Region. It contains a cattle allotment, a historic and scenic road from the valley to the mountains, numerous scenic vistas, the Juniper Flats ACEC, probably 2 active mine claims and numerous old mine shafts and quarries (not restored or cleaned up), numerous target shooting areas with trash, sensitive species and their habitats, numerous springs and seeps as well as blue line streams, newly approved wind energy testing sites, several ranches (occupied and some historic) and residences, thin granatic soils that are easily eroded (and several old hill climbs that are now down to bare rock from erosion), transmission line and other rights of way, a long history of equestrian and hiking recreation (but no designated paths), designation in 2006 of motorcycle only trails, and a boundary on the south with a non-motorized zone in the San Bernardino National Forest along Deep Creek which is a proposed Wild and Scenic River. None of this is on the map for the Juniper Sub Region given out at the public meetings and found on the BLM website: http://www.blrn.gov/ca/stJenifo/cdd/west mOJave wemo/wemo maps.html
1055	Public Outreach The public must become aware of the WEMO process and how they can contribute their comments. The BLM must come to the Morongo Basin and hold workshops on how the public can contribute their views on route designations and present evidence regarding the impacts of ORVs on our communities. Residents need to be assured that the meetings will be held in such a manner as to discourage harassment and retaliation from elements of the ORV riding community who attack those with whom they disagree. In the past, this harassment has included cyberstalking, vandalism of private property and physical confrontation. At the public meetings, the BLM should indicate that federal law enforcement will not tolerate such abuse and will aggressively investigate any complaints of retaliation.
1060	Plan is inconsistent with the Inyo County General Plan. Ideally the Bureau of Land Management (BLM) would have reviewed our Plans and initiated coordination, but has not contacted us. We therefore request coordination with the BLM to address and resolve the inconsistencies between the WEMO plan and the Inyo County General Plan and approved policies. In accordance with 43 C.F.R. 1610.3-1(1), Inyo County hereby informs the BLM of the inconsistencies between Inyo County plans and policies and the WEMO plan. The County requests staff-to-staff meetings to address these inconsistencies and, ideally, to resolve them.
1071	would ask the powers that be, who are tasked with managing this area, to look for qualified sources. Residents who do ORV recreation in 4WD, Buggies, and street and dirt bikes. Seek them out here, look in their driveways and garages. Find them doing what the ORV visitors are doing. Look at their backgrounds and experience and hobbies. Seek local people out who own/live in, strategic locations. Ask others for referrals. Find good sources of info and listen to them. I
1081	The purpose of an EA is to determine if an EIS is warranted. After eight meetings and over 3 million acres of lands affected, it is clear that the proposed action warrants an EIS.
1081	1. None of these sub-region meetings qualify as "scoping" under NEPA regulations (at 40 CFR 1500).
1081	The information and presentations provided by BLM has changed from meeting to meeting. However, none of this BLM information related in any way to the individuality of each sub-sub-region or sub-region - except for a request for roads which people thought should be retained or closed and why this was so.
1081	The public was confused at each meeting because the information kept changing. As the meetings went on, the BLM was able to explain the process with respect to adding or deleting routes to the process. At no meeting were all members of the public able to provide to the BLM, the routes they wanted included as open or closed.

Table C-2. Scoping Comments by Comment Category

Document Number	Comment Text
1081	For example: The first of the eight meetings was a disaster. People came to provide road information and were denied. The GIS technician informed the group that there was no way in which the public could provide information in any form that would be useable by her. By the last of the eight meetings this had modified into showing her on a map and if she could find it on her base, it would find its way into the system.
1081	In the first three meetings, there was no mention of a Task Group. In the first two meetings, there was no mention of a Sub Group of the DAC appointing a Sub Group. The timing of this announcement is crucial since the folks who attended the 1st two meetings did not get that information. This is very important since it impacts how they are to provide comments.
1081	The maps initially provided by BLM are not useless. The scale of the maps provided changed from map to map. No features were identified. Even people familiar with the sub-sub-regions could not identify which roads were which. There was one person who attended most of the "scoping/open houses" and at the end of the eighth meeting still had not been able to provide the GIS technicians with roads he was concerned about.
1081	The public does not have access to this information regarding the botanical, archaeological and biological information and cannot determine what has been completed for each road and have a problem determining how complete the BLM's original documentation was done or how well the BLM's documentation is progressing now. Federal Laws prevent the public's access to sensitive portions of this information. This makes it very hard for the public to make informed comment on which roads should remain as designated, closed or opened which is another violation of NEPA, as all needed information is not available to the public.
1085	having these meetings mid-week is an easy way to make sure that the general majority public will not be able to attend,unless they live in ridgecrest or inyokern. the vast majority of the public that use these routes do not live in ridgecrest or inyokern, may I suggest that these meetings be held on saturday,so a more realistic representation of the general public would be able to attend. remember that the blm. works for the people of california, not a select few that do not truly represent the majority of the public
1087	It appears that BLM is segmenting NEPA when it knows that it has to do further NEPA compliance but is choosing to complete an EA not a Programmatic EIS.
1087	The Notice of Intent in the Department of Interior (DOI) by the Bureau of Land Management (BLM) does not state whether it is to be an Environmental Assessment (EA) nor an Environmental Impact Statement as needed to amend the Vehicular aspect of West Mojave Plan. It also alludes that other amendments will be forth coming, however it does not state what they are and if their intent will negate this process.
1087	Predetermined outcomes violate the intent of NEPA. While the judge ordered some specific criteria, and outcomes the BLM has listed numerous issues, which may not be included by the public. We see this as an attempt to direct the public to a predetermined outcome.
1087	The footprint created by future projects in the CDCA will further fragment the existing road and trail system by severing existing routes of travel thus excluding the public from the acres within project boundaries and the lands near by. The Programmatic EIS must amend the Vehicle Access Element to provide that each future project shall provide specific environmental analysis to reconnect the severed access.
1087	The notice in the Federal Register states the end date as October 13, 2011. At the public meeting held in Ridgecrest and Barstow, it was announced that the ending date was October 17, 2011.
1087	NEPA requires that all relevant data be available to the public. Numerous documents are mentioned as available at BLM Moreno Valley and Sacramento only. Not all the public or even a significant portion of those wishing to comment can get to Moreno Valley or Sacramento during regular working hours. These documents should be posted on the BLM website, including all pertinent maps.
1087	The WEMO Amendment took 8 years of meetings and subcommittees, four years of a super-group that many were precluded from because of the times that the meetings were held and finally two years in house precluding the public from communication. The public needs to be involved in this process if NEPA is to be used.
1087	There must be adequate discussion/consideration of lost recreation opportunities and how they might be mitigated. Quarterly open house meetings should be held so that the public can receive an update on the progress that is taking place to move forward with route designation recommendations and the plan amendment(s).
1094	It is vitally important this planning effort includes public and agency support to the fullest degree possible to allow a transparent and fully informed approach to the decision making process. We thus encourage the BLM to provide a broad opportunity for public and agency input as early as possible in the planning process. As an agency with extensive knowledge of and direct interest in OHV recreation in the WEMO Plan area, the OHMVR Division looks forward to full participation in the upcoming WEMO Plan amendment

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1097	The maps used to create these routes that I saw, did not show the fact that we have an established community here.
1100	It is difficult to provide scoping comments when the BLM has not selected how it wants to do things under NEPA or FLPMA and the public is provided with no clear idea but is left to look at a mishmash of thoughts. Clearly the BLM wants to amend the motorized vehicle access element of the CDCA plan and the court has ordered a redo of route designation. Beyond that nothing is evident. It appears that the BLM also wants to amend other portions of the CDCA Plan WEMO amendment, but it is not exactly clear as to where, when, which, how, etc. and therefore is a violation of NEPA process.
1100	Predetermined outcomes violate the intent of NEPA. While the judge ordered some specific criteria, and outcomes; the BLM has listed numerous issues which may not be raised by the public. We see this as an attempt to direct the public to an outcome.
1100	The U. S. Department of Energy and BLM and DRECP, Renewable Energy plans must be integrated into the route designation and amendment processes.
1100	The BLM needs to clarify to the public the specific components of the WEMO Plan that are "on the table." At the scoping meeting the public clearly did not adequately understand the decision space in this planning process. For example, will this effort reopen such issues as: the prohibition of dual sport events in tortoise and MGS areas; the loss of "C" routes in the Spangler area; the "closed unless signed open" paradigm and the Rand Mountains motor vehicle permit?
1100	Sub Regional meetings: Unless these are done with knowledgeable stakeholders as part of all these meetings the plan will fail. Knowledgeable stakeholders must be a part of the route designation.
1100	Quarterly open house meetings should be held so that the public can receive an update on the progress that is taking place to move forward with route designation recommendations and the plan amendment(s).
1101	The BLM must publish accurate maps ofthe entire region and make them available to residents both on-line and in a hard copy for no cost. These maps should be available to the public at public meetings, at the BLM offices and via mail. Dne factor that contributed to the inaccuracy ofthe WEMD maps and route designations was the lack of ground-truthing in these areas. The BLM needs to apply Global Information System (GIS) technology to overlay protected habitat. private lands, wildlife corridors with proposed route designations.
1106	The BLM maps displayed at the public scoping meetings are of extremely poor quality. They lack contour lines, land marks, place names and other information needed to make meaningful accurate public comments of a sufficient quality to relay adequate information to the BLM.
1106	we do not believe that the BLM is adequately meeting the public involvement requirements of NEPA. The BLM has not provided sufficient information to the public at any of the scoping meetings to actively participate in the planning process. We also believe that the BLM is inappropriately limiting the scope of what will be accepted and considered as comments to be provided by the public.
1126	Maps are completely inadequate to provide any substantive basis for scoping
1139	The table stations set up for the Barstow WEMO Scoping Meeting had the poster delineating the purpose of the meeting attached too high up on the wall to read especially for someone needing trifocal glasses. WEMO_1139 There was inadequate time & facilities to handwrite the information from the wall so that the information could then be truly read, assessed and utilized, and a question asked if necessary. I suggested that the posters be taken down and laid flat on the tables -- they "couldn't be". I asked if this information was available elsewhere? "No" I was told that these posters were the only place this information was available but if I filled out one of the scoping comment forms with my request for a copy of this information it would be emailed or mailed to me. Some of the others had also filled out this request and others had just given up. However, BLM did not follow through and forward this information.
1146	There needs to be some adherence to a balance between the general public's participation and the extreme vested interests in the WEMO process. Both the environmentalists that want all the trails closed and the keep every trails open advocates that want no restrictions are the extremes in this process. The majority of the recreating public are in the middle and don't seem to get much attention because they don't yell as loud. They're part of the process too. The loudest voices don't always come from us that use the desert and live here as well.
1158	Information on maps is not user friendly. A data overlay much like google earth would allow people to orient themselves better
1158	The maps provided by the BLM should have the roads as metadata, that can be used by other mapping programs

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1284	The BLM must publish accurate maps of the entire region and make them available to residents both on-line and in a hard copy for no cost These maps should be available to the public at public meetings, at the BLM offices and via mail. One factor that contributed to the inaccuracy of the WEMO maps and route designations was the lack of ground-truthing in these areas.
1284	The BLM must come to the Morongo Basin and hold workshops on how the public can contribute their views on route designations and present evidence regarding the impacts of ORVs on our communities.
1284	If the BLM is truly interested in public comment, it must come to the communities within the WEMO area. In the TM 3 area, the BLM should use a public facility such as the Joshua Tree Community Center or Joshua Tree National Park headquarters and announce the workshops (one on a weekday and another on a weekend) in local newspapers and radio, and through local organizations such as Community ORV Watch, the Morongo Basin Conservation Association, Desert Protective Council, National Parks Conservation Association and ORV vendors and organizations .
1288	General: Request to not show unauthorized routes on the public scoping maps as they will be copied and used to illegally access USFS lands.
1296	Route Designation: Meetings. A number of the scheduled Sub Region dates conflict with long standing meeting dates. For example The January 18th Sub Region meeting conflicts with the Friends of Jawbone. The January 26 Sub Region meeting conflicts with the Ridgecrest Round Table which meets at BLM on that date. The Feb 7th Sub Region meeting conflicts with the Dumont Dunes Sub Group.
1297	A number of the scheduled Sub-Region dates conflict with long standing meeting dates. For example: The January 1st Sub Region meeting is on a Federal and State Holiday. The January 18th Sub Region meeting conflicts with the Friends of Jawbone. The January 26 Sub Region meeting conflicts with the Ridgecrest Round Table which meets at the BLM Office on that date. The Feb 7th Sub Region meeting conflicts with the Dumont Dunes Sub Group. Since the dates are being set up by the Barstow Office and with no representation from Ridgecrest, there is no way that the Ridgecrest Public can participate in a meaningful manner (please see #2)
Livestock Grazing	
1025	The whole West Mojave plan area should undergo a rigorous revision for motorized vehicle access in conjunction with the other planning efforts that will amend the existing WEMO plan amendment to the CDCA including a revision of the grazing element of the WEMO plan and an analysis of cumulative impacts.
1025	Similarly, impacts to species, riparian areas and water resources from grazing and routes are both additive and cumulative and should be considered together in the same EIS.
1026	[TMA 2] Provide a quantitative breakdown of the amounts of routes within BLM grazing allotments so that the compatibility and/or conflicting uses can be identified by the public. This TMA includes the Lacey-Cactus-McCloud, Olancha Common, Tunnawee, Walker Pass, and parts of the Cantil Common Allotments.
1026	[TMA 2] In the cumulative effects analysis, analyze the cumulative impacts of each proposed action with continued grazing on the Lacey-Cactus-McCloud, Olancha Common, Tunnawee, Walker Pass, and parts of the Cantil Common Allotments and all planned, proposed and reasonably foreseeable Solar and Wind energy projects and energy transmission projects on all listed and sensitive species, soil types and Unusual Plant Assemblages.
1026	[TMA 3]This TMA includes the Rattlesnake and Round Mountain Allotments. Provide a quantitative breakdown of the amounts of routes within BLM grazing allotments so that the compatibility and/or conflicting uses can be identified by the public.
1026	[TMA 4] Provide a quantitative breakdown of the amounts of routes within BLM grazing allotments so that the compatibility and/or conflicting uses can be identified by the public. This TMA includes the Rudnick Common, Hansen Common, Warren, and Antelope Valley Allotments.
1026	[TMA 4] In the cumulative effects analysis, analyze the cumulative impacts of each proposed action with continued grazing on the Rudnick Common, Hansen Common, Warren, and Antelope Valley Allotments and all planned, proposed and reasonably foreseeable Solar and Wind energy projects and energy transmission projects on all listed and sensitive species, soil types and Unusual Plant Assemblages.
1026	[TMA 6] Provide a quantitative breakdown of the amounts of routes within BLM grazing allotments so that the compatibility and/or conflicting uses can be identified by the public. This TMA includes the Spangler Hills, Lava Mountains, Rudnick Common, Hansen Common, Monolith Cantil, Bissell, Boron, and most of the Cantil Common Allotments.
1026	[TMA 6] In the cumulative effects analysis, analyze the cumulative impacts of each proposed action with continued

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	grazing on the Spangler Hills, Lava Mountains, Rudnick Common, Hansen Common, Monolith Cantil, Bissell, Boron, and most of the Cantil Common Allotments and all planned, proposed and reasonably foreseeable Solar and Wind energy projects and energy transmission projects on all listed and sensitive species, soil types and Unusual Plant Assemblages.
1026	[TMA 7] Provide a quantitative breakdown of the amounts of routes within BLM grazing allotments so that the compatibility and/or conflicting uses can be identified by the public. This TMA includes the Stoddard and the Shadow Mountain Allotments.
1026	[TMA 7] In the cumulative effects analysis, analyze the cumulative impacts of each proposed action with continued grazing on the Stoddard and the Shadow Mountain Allotments and all planned, proposed and reasonably foreseeable Solar and Wind energy projects and energy transmission projects on all listed and sensitive species, soil types and Unusual Plant Assemblages.
1026	[TMA 8] Provide a quantitative breakdown of the amounts of routes within BLM grazing allotments so that the compatibility and/or conflicting uses can be identified by the public. This TMA includes the Ord-Rodman Allotment.
1026	[TMA 8] In the cumulative effects analysis, analyze the cumulative impacts of each proposed action with continued grazing on the Ord-Rodman Allotment and all planned, proposed and reasonably foreseeable Solar and Wind energy projects and energy transmission projects on all listed and sensitive species, soil types and Unusual Plant Assemblages.
1026	without an analysis of the direct and indirect effects of livestock grazing on many of the West Mojave's sensitive resources that are also impacted by OHV use and routes, it is impossible to meaningfully understand the cumulative effects of any route systems.
1026	The cumulative effects analysis must consider the other land use activities authorized by the BLM including livestock grazing, mining, and energy development. Under the 2006 West Mojave Plan, the continued grazing of domestic sheep and cattle was authorized over a vast swathe of the planning area. Judge Illston in her September 28, 2008 Order overturning the prior West Mojave route designation specifically stated, "On remand, the BLM will consider a host of factors, including grazing issues, in its alternatives analysis." It is unclear to the general public how the BLM is going to address Judge Illston's order with respect to the expected alternatives analysis. However, it is clear that the BLM must address the extensive suite of cumulative effects that livestock grazing, motorized vehicle use and route designation will have on many sensitive resources within the planning area. These include: Impacts to wildlife Impacts to wildlife habitat Impacts to vegetation Impacts to threatened and endangered species Impacts to all special status species identified in the West Mojave planning effort Impacts to unusual plant assemblages Impacts to designated critical habitats Impacts to special status areas such as DWMAs and Habitat Conservation Areas Impacts to visual resources Impacts to wilderness character and to wilderness quality lands Impacts to cultural resources Impacts to soils Impacts to air quality Impacts to riparian areas, water quality, and watersheds Effects on invasive species including the contribution of the route system to subsidizing food, water, and perching sites for the common raven
Route Designation Process	
1002	Information on non-motorized recreational interests potentially impacted by vehicle use is glaringly absent from inventory data collected for the WEMO route designation, and from the WEMO Plan FEIS in general. Interdisciplinary agency specialist involvement in the contracted 2001-02 route inventory also appears to have been minimal, contrary to national BLM guidance and CDCA Plan prescription.
1002	The valid application of CFR minimization criteria using the "decision tree" process applied in the 2003-05 WEMO route designations has come into question. Reviewers have concluded that the resultant process is inconsistent with the policy, law, use of science and common sense that apply to travel management on public lands (Wiygul 2005; TWS et al. 2006). In effect, the subject flow chart (BLM 2003a, 2005a) legitimizes all routes, whether created legally or not, and instead of addressing the CFR minimization criteria, asks the same set of five questions for every route that is evaluated

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	through each "branch" of the decision tree: (1) Whether the route is officially recognized or maintained or represents a principal means of connectivity within a subregion? (2) Whether the route will impact sensitive species or sensitive species habitat? (3) Whether any impacts to sensitive species or sensitive species habitat can be mitigated or avoided? (4) Whether there is any public benefit (e.g. recreation, connectivity, etc.) from the route? (5) Whether the route is redundant, i.e., is there an alternate route? The decision tree process used in the 2003-05 route designations is overly simplistic and fails to acknowledge key issues that are critical for informed decision-making.
1002	To minimize vehicle impacts upon resources and non-motorized uses, both careful route designation and on-the-ground implementation, is needed. This effectively necessitates an interdisciplinary, comprehensive approach. The provision of appropriate vehicle access has to be viewed in the context of natural resource management objectives, travel management regulations, management personnel capability, network maintenance needs, and all authorized uses of associated lands. It must involve all stakeholders and the general public in both route designation design and planning related to program implementation.
1002	A collaborative route designation process involving local communities is a necessity in the WEMO planning area due to the extensive route network that already exists, previous "open" vehicle play area allocations and the complex ownership patterns near urban interfaces. To address these issues, route designation must involve the use of high resolution aerial photography and GIS mapping to identify vehicle use compliance problems. Private lands and non-motorized uses of public lands must also be considered in laying the foundation of a thoroughfare vehicle network that identifies destinations and basic touring opportunities. Cumulative resource impacts and the full scale of implementation tasks must be evaluated.
1002	The first step in route designation necessarily involves identification of a vehicle network baseline, and how resources have been impacted by previous vehicle use. Tools to accomplish these tasks include interdisciplinary field mapping of affected resources and private lands, using aerial photography where beneficial. A second step should involve an interdisciplinary analysis of governing regulations and relevant management plan direction that outline the extent of allowed vehicle use and resource protection needs. The third and arguably most crucial step should include an evaluation of agency personnel capability to manage a given level of vehicle use while achieving the direction outlined by regulations and the governing management plan.
1002	A basic vehicle thoroughfare network reflecting the extent of personnel available to implement the associated vehicle management program can be outlined using a systematic inventory of existing routes and affected resources. Such an inventory should be completed by qualified personnel versed in natural, cultural and visual resource management.
1002	In the 2003-05 WEMO route designation effort, the perception of vehicle route reduction appears to have become of greater concern than proper application of the minimization criteria. Not only was the application of these criteria poorly documented, they do not appear to have been applied properly in all designation analyses.
1002	Such route designation does not effectively incorporate all minimization criteria required by statute. Nor does such route designation heed recommendations previously provided to the BLM relative to route designation and vehicle use management (GAO 1995), or remotely constitute "close coordination" with the entire public.
1002	Route designation must adhere to all laws, the CFR and follow direction outlined in a governing land use plan. Per the FLPMA, resource values are to be protected. Unnecessary or undue degradation of public lands must be prevented. A cohesive route designation program is required for all public lands in the CDCA that address all MUCs. Known problems and issues on MUC U and M public lands in the CDCA are required to be addressed in relevant plans.
1002	Many inconsistencies and deficiencies in the WEMO Plan route designation (BLM 2003a, 2005a) process have been reported. These include the acceptance of a questionable baseline relating to past route designation, the use of a flawed "decision tree" designation approach, inadequate field review, a limited range of management alternatives and insufficient public involvement. Litigation initiated following BLM's adoption of this route designation prompted a U.S. District Court ruling that BLM had violated both the FLPMA and the NEPA in its overall environmental analysis and adopted land use plan amendment. This ruling confirmed that BLM must use 43 C.F.R. § 8342.1 "minimization" criteria, record how the agency did so in its environmental documentation and provide a reasonable range of management alternatives.
1002	It should be noted that the court-ordered remedies to the inconsistencies and deficiencies identified in the WEMO Plan FEIS are interim injunctive actions. However, these measures are crucial considerations which need to be fully integrated into BLM's final WEMO Plan route designation and vehicle use management program.

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100S	BLM now has the opportunity to correct this error. In the proposed plan amendment, the OHV which routes existing pre-1980. Even the Court agreed that trying to figure out what existed on the ground in 1980 was virtually impossible. ?Limited Use Areas? should include, at a minimum, those ?routes of travel? identified as appropriate for such use in the new route designation process. In other words, the new route designation process will redefine the baseline for determining which routes are part of the WEMO Plan and which ones are not. This will eliminate the need to speculate (or guess) as to
1006	In addition, we support the approach recommended in View from the Road - Route Designation in the Mojave Desert and its appendices (Egan et al. 2012) which have extensive information and documentation that should be included in the route evaluation process.
1009	The BLM should accept, and include in their analysis of routes within the WEMO Plan area, information from the public relative to the value of routes of interest, and the amenities, either man made or natural, along those routes.
101S	A request to begin road designation in the CAPA area was made at each meeting held in Ridgecrest for the past five years. Yet nothing was done and decisions to open or close roads have been made without required community participation. The CAPA road designation process must be completed as a separate process after the remainder of the road designation required by the court is finished and the time needed can be spent.
101S	The subregion matrix must also include a recreation portion and a private property portion. Recreation, depending upon type and kind and where is of equal importance with biological systems. There have been many court decisions which require land managers to provide vehicle access to the owners of private property. So these two items should be included in the matrix and in the road designation, roads to private property should not be closed.
101S	Should the BLM decide to use the combined process, a subregion should be evaluated with differing subsets. For example. Red Mountain might be combined with the Rand subregion or another combination might be Red Mountain and the Black Mountain subregion and differing results for road closures or road openings might surface. How the subregions are combined and the criteria for this decision is of great importance.
1016	Within each sub-region and within each Field Office's Some routes should provide a linear experience. · Some routes should provide a connection; a loop route where it is possible. · Some routes designated should provide access to a variety of topography, as this may be part of the experience. For example. The type of topography the route traverses can be associated with the type of experience one gets from the journey. (The road to Lookout in Death Valley and the road to the Creosote Rings. Two very different experiences.) · Some routes designated should represent a variety of scenic opportunities as this is also part of the experience. · Some routes designated should include a variety of points of interest. For example: A historic crossing or a special view point or a floral display. · Some routes should provide access between one sub-sub-region and another. · Some routes should provide access/links between the Field Office transportation system and sub-regions transportation systems. · Some routes should provide access to camping areas. · Some routes should provide access to specific destinations. (Rockhound collecting sites, guzzlers, etc.) · Some routes should provide access to trailheads. · Some routes should provide access to staging areas. For example: Endurance equestrian rides or rock climbing or motorized races. · Some routes designated should have historic or some cultural value. For example: 20 mule team, Spanish Trail, Mojave Road, the Salt Trail etc. · Some routes should provide seasonal opportunity. For example: Hunting, .wildflower viewing, wildlife. · Some routes designated should provide diversity of difficulty for a variety of vehicles. Beginning routes to extreme routes. (Not all inclusive in one route.)

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	· Some routes designated should include the opportunity to achieve the feeling of being, the only one. · Some routes designated should include the opportunity to achieve the feeling of being in an unvisited area. · The final transportation system should provide opportunities for all types of vehicles to have routes for their use and type of recreation. For example: single track for bicycle and motorcycle. · The final transportation system should provide for both primary and secondary and resource access. · The final transportation system should provide opportunities for long distance travel. · The final transportation system should provide opportunities to access gas and other services. · The final transportation system should utilize seasonal closures, seasonal opening, no parking, speed limits, shared use (two weeks motorized use and two weeks non motorized use or one month on and one month off) and other out of the box solutions rather than absolute closure. In other words the final transportation plan could partially restrict the size, scope, and type of activities and/or vehicles rather than closure of the road. Transportation Plan the following: · Some routes should provide access from place to place. · Some routes should provide access to a specific place. For example a group of rocks or a particular Joshua tree. The final transportation system should where possible maintain itself. · The final transportation system should recognize that each type of user may see differing aspects of a route/trail as being desirable or undesirable. · The final transportation system should include the access needs of grazers, miners, utilities, jeep tours, duel sport, filming industry and communication sites. · The final transportation system should favor "multiple use routes". · The final transportation system should include routes which connect with routes in other management areas to provide for long distance touring. · The final transportation system should designate routes which should be the most environmentally sound if more than one route serves the same purpose in an area. Do not neglect transition zones. · The final transportation system should include duplicate roads when it is determined that the route provides a safe exit in fire or flood. · The final transportation system should include all roads which connect in some way to those designated open in other states.
1016	The Society believes there should be a separate process for the CAPA; to do other than this at this time will deny the opportunity for comment to those who made the effort to attend the "scoping/open house meetings.
1016	The Society believes that the BLM must seek some kind of U. S. Fish and Wildlife Service review or consultation on this current route designation process. The Society is concerned that without the single track routes included as part of the infrastructure and designated there will be more, not less environmental disruption.
1016	The BLM must remember that California Law recognizes washes of a certain size (at least 28 inches wide) as routes and must designate these washes open, limited or closed.
1016	At a meeting several years ago BLM promised the 350 people who attended, (this included members of congress, members of Boards of Supervisors and members of City Councils) there would be a CAPA for their areas of interest. T
1017	There is more than one legal decision involved in the road designation process. The CAPA decision started with road designation for that area beginning in 2006 and was extended for five years. This time frame ended in March of 2011. A request to begin road designation in the CAPA area was made at each meeting held in Ridgecrest for the past five years. Yet nothing was done and decisions to open or close roads have been made without required community participation. The CAPA road designation process must be completed as a separate process after the remainder of the road designation required by the court is finished and the time needed can be spent. If this turns out not to be possible then the El

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	Paso/CAPA sub-region must be done either as the first or last sub-region in the route designation process.
1017	The sub-region matrix must also include a recreation category and a private land category which are of equal importance with biological systems. There have been many court decisions which require land managers to provide vehicle access to the owners of private property. So these two items should be included in the matrix and in the road designation, roads to private property should not be closed.
1017	The duel process is the one which the BLM should undertake. It will allow appropriate study of the amendment(s) while also participating in the route designation process.
1017	The SPCW believes that each sub-region should not be combined with another, but should be looked at separately. Each of the 33 regions is just as important as the next and they need to get full attention. However, should the BLM decide to use the combined process when looking at sub-regions; a sub-region should be evaluated with differing subsets. For example. Red Mountain might be combined with the Rand sub-region or another combination might be Red Mountain and the Black Mountain sub-regions and differing results for road closures or road openings might surface. How the sub-regions are combined and the criteria for this decision is of great importance. The public must be involved.
1017	It should be made clear to all participants that the 43CFR 8342.1 criteria which must be utilized in determining road designation does not preclude options other than closure.....Such as: seasonal use, dry weather use, relocation of camping off road, reduction of the number of vehicles in an event or activity, etc. Court desired outcomes can be reached a number of ways.
1020	The BLM must provide plans to ensure compliance, with data to back up the prediction of a high level of confidence. The BLM also must provide monitoring plans to measure compliance, and plans for management modifications when lack of compliance is detected. To ensure compliance, BLM must go well beyond current techniques, which have proved ineffective in numerous areas. Since larger budgets cannot be expected, BLM must establish more efficient tools and techniques.
1022	In general, CA4WDC does not endorse an amendment to the WEMO Plan to analyze motorized vehicle use separately or in conjunction with sub-regional route designation . However, as this planning effort is part of a court-ordered settlement, an amendment to the WEMO Plan is necessary. As such, the analysis must encompass the entire WEMO region and not separated to individual sub-regional route designation actions.
1025	Subregions should be identified based on watersheds. Density cap for roads/routes/trails should be identified for each subregion, based on soil type and other multiple use development activities within that subregion, conservation status, threatened and endangered species habitat and other factors.
1026	If the BLM wishes to continue with the "sub-region" concept, the agency must provide a rational explanation as to why the West Mojave planning area needs to be divided into these "sub-regions", and must provide an objective definition of the term "sub-region" that facilitates and does not compound the cumulative effects analysis. If the BLM believes that consideration of "sub-regions" is required, then the BLM should consider alternative, objective ways to delineate "sub-regions" such as the use of existing DWMA and habitat conservation area boundaries, ecotypes, or designated land use boundaries to comply with the mandate that route designations be based on the protection of the resources of the public lands.
1027	Although it seems prohibitive that the BLM will have the opportunity to analyze each sub-region to the specificity necessary, appropriate sub-regions can be grouped to WEMO-1027 aid in the analysis.

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1037	The existing process and decision criteria developed for the previous Western Mojave Desert Off Road Vehicle Designation Project Record of Decision, June 2003 remain valid and should be used to designate routes in the WEMO plan area.
1037	The travel analysis must encompass the entire WEMO region and not separated into individual sub-regional route designation actions.
1041	I request that review of the land use policies in the Mojave Desert include recognition of the many devoted riders who live in California and wish to safely and responsibly share their public lands, too. Would you please consider adding an equestrian voice to your Desert Advisory Council Subgroup?
1042	we support the "Separate Process" over the "Combined process" explained at the Barstow Scoping meeting.
1042	we again request that the Juniper Sub Region receive a separate Management Plan.
1046	The effort to designate a route network must include all the information available, and not just where people want to ride a motorcycle, ATV, RUV, UTV, jeep or other off road vehicle.
1046	Goals and objectives for each Sub Region in the Travel Management Areas must be made clear in draft EIS for all sub regions and "unclassified" lands.
1046	The BLM must coordinate fully with the land uses, owners and managers adjacent to BLM managed lands.
1057	First, BLM should initially "screen" each proposed route to determine if it is located in designated wilderness areas or primitive areas. If a route is located in one of these areas, it should be eliminated from the network unless the authorized officer can make written findings, supported by the best available evidence, that the route in question will not adversely affect the natural, esthetic, scenic, or other values for which the wilderness or primitive area was established. (43 CFR Part 8342.1 (d)).
1057	Next, each route should be evaluated for possible impacts on soil, watershed, vegetation, air, and other resources of the public lands, and for any possible impairment of wilderness suitability. If such impacts are identified, the route should be relocated or realigned to minimize them. (43 CFR Part 8342.1 (a». In some cases, it will be appropriate to eliminate the route from further consideration.
1057	Third, each route should be evaluated for its potential to cause harassment of wildlife or significant disruption of wildlife habitat, with special attention given to endangered and threatened species and their habitats. If a route shows such potential, it should be relocated, realigned, or, in extreme cases, eliminated from consideration. (43 CFR Part 8342.1 (b».
1057	Fourth and finally, each route should be assessed for possible conflicts between OHV use and other existing or proposed recreational uses of the same or neighboring public lands. Where such conflicts appear likely, the route should be relocated, realigned, or, if the conflict seems insoluble, eliminated from consideration. In addition, the route should be located to ensure compatibility with existing conditions in populated areas, taking into account noise and other factors. (43 CFR Part 8342.1 (c».
1066	I believe that the environmental studies could be conducted without closing our roads to the people who use them.
1071	And here is a link to the actual DMV Code on combined uses. I think it would be a valuable tool throughout the BLM as you administer to the Desert via the WEMO plan, and in many other areas of Desert, besides our three little towns. The State also notes here, "how and who" to designate this section, and, also how to get the State to pay for it!! http://dmv.ca.gov/pubs/vctop/d16_5/vc38026.htm
1071	I read VC Section 38026.1. I think it could be even more help to you because it designates a pilot project in Inyo County, also mentioning the BLM as a "participant", and apparently, you as the BLM, also have the authority to authorize and enact this. It extends the 3 miles to 10 miles, (not that 10 miles is necessary in our three little towns), and gives more written guidance about the subject, including signage, and you might also want to look into what Inyo Co. has done/is doing and has learned as precedence for your use here in our counties.
1081	The eight WEMO planning areas identified are too complex to group together. Local communities that are affected by the proposed decision need a local BLM meeting to exchange information and provide comments. Issues in each sub-region and sub-sub-region, other than route designation and which may impact route designation are different and must be examined in their entirety.
1081	In the haste to complete the WEMO amendment to the CDCA Plan, many hundreds of miles; maybe thousands of miles, of single-track roads used by bicycles and motorcycles were not included in the final WEMO route designation process.

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	This has led too much of the alleged "trespass" issues currently happening.
1081	Specific Comments Within each sub-region and within each Field Office's Transportation Plan the following: · Routes signed closed through this process or any other process, must immediately be signed CLOSED. · Routes should provide access to a specific place. · Routes should provide a linear experience. · Routes should provide a connection; a loop route where it is possible. · Routes designated should provide access to a variety of topography, as this may be part of the experience. · Routes designated should represent a variety of scenic opportunities, as this is also part of the experience. · Routes designated should include a variety of points of interest, for example a historic crossing or a special viewpoint or a floral display. · Routes should provide access between one sub-sub-region and another. · Routes should provide access/links between the Field Office transportation system and sub-regions transportation systems. · Routes should provide access to camping areas. · Routes should provide access to specific destinations. · Routes should provide access to trailheads. · Routes should provide access to staging areas (Endurance equestrian rides or rock climbing or motorized races). · Routes designated should have historic or some cultural value (20-mule team, Spanish Trail, Mojave Road, the Salt Trail etc). · Routes should provide seasonal opportunity (hunting, wildflower viewing and wildlife). · Routes designated should provide diversity of difficulty for a variety of vehicles. Beginning routes to extreme routes and not all-inclusive in one route. · Routes designated should include the opportunity to achieve the feeling of being in an unvisited area. · The final transportation system should provide opportunities for all types of vehicles to have routes for their use and type of recreation. For example: single track for bicycle and motorcycle. · The final transportation system should provide for both primary and secondary and resource access. · The final transportation system should provide opportunities for long distance travel. · The final transportation system should provide opportunities to access gas and other services. · The final transportation system should utilize seasonal closures, seasonal opening, no parking, speed limits and shared use. In other words the final transportation plan could partially restrict the size, scope, and type of activities and/or vehicles rather than closure of the road. · The final transportation system should recognize that each type of user might see differing aspects of a route/trail as being desirable or undesirable. · The final transportation system should include the access needs of grazers, miners, utilities, jeep tours, duel sport, filming industry and communication sites and of course access to private property. · The final transportation system should favor "multiple use routes". · The final transportation system should include routes that connect with routes in other management areas to provide for long distance touring. · The final transportation system should designate routes which should be the most environmentally sound if more than one route serves the same purpose in an area. · The final transportation system should include duplicate roads when it is determined that the route provides a safe exit in fire or flood. (Homewood Canyon is a great example, however the BLM has not even talked to the people there or sent notification. · Roads R5 and R50 which have been fenced to prevent inadvertent trespass in the Rands (tortoise area) need to be designated open to vehicle travel. There is no longer any reason for them to remain closed. ·The Conklin Road should be re-opened as it was closed illegally.
1081	NPLNEWS believes the process should begin with designating as open all routes which are congressionally designated open ...."cherry stems and wilderness boundary roads" as part of the Wilderness process. BLM and the courts should ratify routes that have been congressionally approved by Congress.
1081	In 2003, with the public help, BLM set up the El Paso Collaborative Access Planning Area group (CAPA). The CAPA was blessed by BLM in 2003 to allow citizens to assist BLM in determining where those public roads are within the El Paso Planning Unit of the West Mojave Plan...This document goes further to state that: "A timeline for completing the El Paso CAPA process follows" starting with a June 30, 2003 date." Members of the Ridgecrest City Council were key members of this effort - since they know best how desert access, filming and recreation affect the economic base of the City of Ridgecrest and Eastern Kern County communities. Of course,
1081	Our Ridgecrest City Council was promised completion of the CAPA and just recently sent a letter requesting this, however, to date the BLM has not responded.
1087	Without consulting with Congress, BLM California Management divided up the CDCA into bioregions and inserted a new process using these bioregions as a basis to amend the CDCA Plan (NEMO, NECO, WEMO). This process was developed from a single use theme that never reached consensus or approval from the American people. That explains the mess we are dealing with now. For instance, this vehicle part is in the WEMO Amendment, however, will it eventually apply to the whole CDCA? This must be addressed. Many of these roads are also segments of NEMO. All roads must be up for consideration in the road designation process so as to be able to demonstrate true "minimization" which has already occurred in the California Desert Conservation Area.

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1087	A request to begin road designation in the CAPA area was made at each meeting held in Ridgecrest for the past five years in a public forum. No decisions to open or close roads have been made with required community participation. The CAPA road designation process must be completed as a separate process.
1087	The Sub Region matrix must also include a recreation category and a private land category. There have been many court decisions, which require land managers to provide vehicle access to the owners of private property. Roads to private property should not be closed.
1087	The BLM proposes to include as part of the road designation and amendment of the CDCA Plan additional changes, which are not specifically a part of the road designation process.
1087	Should the BLM decide to use the combined process, a Sub Region should be evaluated with differing subsets. How the Sub Regions are combined and the criteria for this decision are of great importance. The public should be involved.
1087	The BLM should begin the road designation process with those roads for which it will be easy to justify their status; for example, Congressionally designated open "cherry stems" should be left open as Congress has already designated them open.
1087	BLM should leave the words "existing roads and trails" in the CDCA Plan however it should be clarified as to reflect that this does not just mean 1980. It should mean whatever roads are in existence on the ground when access issues are determined.
1087	The BLM proposes to include as part of the road designation and amendment of the CDCA Plan additional changes, which are not specifically a part of the road designation process. Should the BLM proceed on this course the Vehicle Access Element of the plan needs to be amended to specifically reflect the wording contained in the California Desert Protection Act with respect to exempt vehicle access in Wilderness areas. The Closed section in Chapter 3 should read, "No vehicle travel is allowed." Except that Vehicle Access is authorized for the purposes of fighting fire, protecting health and safety and maintaining and repairing and, in times of drought, carrying water to guzzlers, and tanks and maintaining and monitoring wells, and maintaining seeps, springs, and tinajas. Roads leading to the guzzlers, wells, seeps, springs tinajas and tanks will not be closed or eliminated but may be gated with locks."
1100	The BLM proposes to include as part of the road designation process and amendment of the CDCA Plan, additional changes which are not specifically a part of the road designation process. Should the BLM proceed on this course the Vehicle Access Element of the plan needs to be amended to specifically reflect the wording contained in the California Desert Protection Act with respect to exempt vehicle access in Wilderness areas. The Closed section in Chapter 3 should read, "No vehicle travel is allowed." Except that Vehicle Access is authorized for the purposes of maintaining and repairing and in times of drought carrying water to guzzlers, and tanks and maintaining wells, and maintaining seeps, springs, and tinajas. Roads leading to the guzzlers, wells, seeps, springs tinajas and tanks will not be closed or eliminated but may be gated with locks."
1100	There is more than one legal decision involved in the road designation process. The CAPA decision started with road designation for that area beginning in 2006 and was extended for five years. This time frame ended in March of 2011. A request to begin road designation in the CAPA area was made at almost every meeting held in Ridgecrest for the past five years. Yet nothing was done and decisions to open or close roads have been made without required community participation. The CAPA road designation process must be completed as a separate process after the remainder of the road designation required by the court is finished and the time needed can be spent. Should this not be possible then the El Paso/CAPA road designation process must be done as the first sub-region or the very last sub-region.
1100	The subregion matrix must also include a recreation category and a private land category which are of equal importance with biological systems. There have been many court decisions which require land managers to provide vehicle access to the owners of private property. So these two items should be included in the matrix and in the road designation. Roads to private property should not be closed.
1100	Upon close examination each matrix is slightly different. The process should be the same for the Barstow Field Office as it is for the Ridgecrest Field Office.
1100	The dual process is the one which the BLM should undertake. It will allow appropriate

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	study of the amendment(s) while also allowing participation in the route designation process.
1100	The RACC believes that each sub-region should not be combined with another, but should be looked at separately. Each of the 33 regions is just as important as the next and they need to get full attention. However, should the BLM decide to use the combined process when looking at sub-regions; a sub-region should be evaluated with differing subsets. For example, Red Mountain might be combined with the Rand subregion or another combination might be Red Mountain and the Black Mountain subregions and differing results for road closures or road openings might surface. How the sub-regions are combined and the criteria for this decision are of great importance. The public must be involved.
1100	The West Mojave Desert Off Road Vehicle Designation Project book indicates that the Sub-Regions do not match. The Notice and the maps show us 33 sub-regions. The old Off Road Vehicle Designation Project had 20 sub-regions. This kind of deception only adds to the public's confusion and makes it impossible to comment in an informed manner as required by NEPA.
1100	The RACC is concerned that all routes align with neighboring NEMO routes unlike the original WEMO route designation maps. For example: the North Searles and the Cronese Lakes sub-regions.
1100	The BLM should begin the road designation process with those roads for which it will be easy to justify the status. For example: Designate as Open R5 and R54 as both these roads are through and fenced along both sides. Or Congressionally designated open roads the "cherry stems".
1106	The El Paso Mountains and the Ridgecrest Subregions should be excluded from the current WEMO route designation process.
1106	The El Paso Mountains and the Ridgecrest subregions were specifically excluded from the WEMO route designation process and because they were never evaluated using the faulty decision tree process and because they have never received public review as required by NEPA, these subregions should not be considered in the current court mandated action but should be addressed at a later date...Bill Haigh, the WEMO Project Manager, committed to the local residents that the El Paso and Ridgecrest Subregions would be addressed at a later date when more focus and local involvement would be feasible. Thus is why the CAPA (Collaborative Access Planning Area) became part of the final WEMO Environmental Impact Statement and Record of Decision.
1106	During numerous monthly public meetings held by the BLM Ridgecrest Field Office over the last several years, members of the public have repeatedly requested that the BLM begin the CAPA process while there was time to adequately address the route designations under a reasonable time constraint and minimum pressure. It was repeatedly pointed out by members of the public that if the BLM did not accomplish the El Paso Mountain and Ridgecrest Subregion CAPA that sooner or later we would be in a bind to get it done in the future. As a result of inaction on the part of the BLM we are now seeing that unnecessary urgency that could have been avoided if the BLM had done its job in a timely manner. Addressing the route designations for the El Paso Mountains and Ridgecrest Subregions as part of the ongoing court mandated process does not comply with the BLM's commitment for a "community-based collaborative process as described in the WEMO Final Environmental Report and Statement.
1134	The BLM needs to adopt the EPA Route Policy, (Encourage, Prohibit and Allow Route Policy) that the OHV leadership has developed and is using nationwide at every level of government.
1134	There is no distinction being made between Open and Limited areas. Everything is lumped together and decisions are being made on limited areas for actions in Open areas which are perfectly legal.
1146	I would not like to see all subregions lumped together and treated as 1. Many areas have problems unique to themselves. One size fits all solutions is really no solution at all.
1146	Use consistent criteria for evaluating routes.
1249	Use a set of well-defined criteria and guidelines for establishing routes. Criteria should include guidelines regarding routes in washes or hydrologically significant areas, crossing private parcels, routes that can impact ACEC, Wilderness areas, special

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	habitat areas or DWMAs, or cultural resource areas. These criteria should be clearly stated and uniformly applied to avoid route sitings that are arbitrary or inappropriate.
1249	Subregional areas can be combined for planning purposes, where appropriate. Rather than fragment the planning process, combine subregional areas for planning and meetings where appropriate, to allow for the best dialogue and interaction among interested parties. For example, the Joshua Tree, Wonder Valley, Morongo Valley and Rattlesnake Canyon subregions comprise a logical "Morongo Basin" planning area.
1250	Due to the many users and problems in this area we support the "Separate Process" as opposed to the "Combined Process". The proximity to a large population creates some unique problems to be considered. The "Motorcycle Only" routes are not working out well. Other vehicles are still using them and erosion appears to be a huge problems with most of them. We think there needs to be more emphasis on education in the area as some do not know about the "Motorcycle Only" designation. There is also a general problem with users not understanding the route system in the area. Accurate maps of the area need to be available to the motorized users along with general rules for hunting, wood gathering and other uses. An informed and knowledgeable public is the key to success with the route designation and reduction of rotlte proliferation and other illegal activities.
1251	natural/cultural resources, special status species, the visual landscape, non-motorized uses and private lands, knowledgeable interdisciplinary analysis and the use of the best available science are all crucial considerations in route designation/vehicle network management and in fulfilling the tenets of the National Environmental Policy Act (NEPA) and the Federal Land Policy and Management Act (FLPMA).
1251	Evaluation of potential open routes on the ground by a team of interdisciplinary specialists based on the CFR and aerial photo analysis, coupled with an evaluation of BLM staff capability to manage, maintain and enforce the resulting network;
1256	I think the BLM should complete the "El Paso Capa"
1257	Within each sub-region and within each Field Office's Transportation Plan the following:; • Some routes should provide access from place to place. • Some routes should provide access to a specific place. For example a group of rocks or a particular Joshua Tree. • Some routes should provide a linear experience. • Some routes should provide a connection; a loop route where it is possible. • Some routes designated should provide access to a variety of topography, as this may be part of the experience. For example. The type of topography the route traverses can be associated with the type of experience one gets from the journey. (The road to Lookout in Death Valley and the road to the Creosote Rings. Two very different experiences.) • Some routes designated should represent a variety of scenic opportunities as this is also part of the experience. • Some routes designated should include a variety of points of interest. For example: A historical crossing or a special view point or a floral display. • Some routes should provide access between one area and another. • Some routes should provide access/links between Field Office and sub-region transportation systems. • Some routes should provide access to camping areas. • Some routes should provide access to specific destinations. (Rockhound collecting sites, guzzlers, etc.) • Some routes should provide access to trailheads. • Some routes should provide access to staging areas. For example: Endurance equestrian rides or rock climbing or motorized races. • Some routes designated should have historic or some cultural value. For example: 20 mule team, Spanish Trail, Mojave Road, the Salt Trail etc. • Some routes should provide seasonal opportunity. For example: Hunting, wildflower viewing, wildlife. • Some routes designated should provide diversity of difficulty for a variety of vehicles. Beginning routes to extreme routes. (Not all inclusive in one route.) • Some routes designated should include the opportunity to achieve the feeling of being, the only one. • Some routes designated should include the opportunity to achieve the feeling of being in an unvisited area. • The final transportation system should provide opportunities for all types of vehicles to have routes for their use and type of recreation. For example: single track for bicycle and motorcycle.

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	• The final transportation system should provide for both primary and secondary access. • The final transportation system should provide opportunities for long distance travel. • The final transportation system should provide opportunities to access gas and other services. • The final transportation system should utilize seasonal closures, seasonal opening, no parking, speed limits, shared use (two weeks motorized use and two weeks non motorized use or one month on and one month off) and other out of the box solutions rather than absolute closure. • The final transportation system should where possible maintain itself. WEMO - 1257 The final transportation system should recognize that each type of user may see differing aspects of a route/trail as being desirable or undesirable. • The final transportation system should include the access needs of grazers, miners, utilities, jeep tours, duel sport, filming industry and communication sites. • The final transportation system should favor "multiple use routes". • The final transportation system should include routes which connect with routes in other management areas to provide for long distance touring.
1287	We are advised that there is more than one legal decision involved in the road designation required community participation. The CAP A road designation process must be completed as a separate process after the remainder of the road designation required by the court is finished and sufficient time for this process can be allocated. process. The CAP A decision started with road designation for that area beginning in 2006 and was extended for five years. This time frame ended in March of 2011. A request to begin road designation in the CAP A area was made at each meeting held in Ridgecrest for the past five years. Yet nothing was done and decisions to open or close roads have been made without
1287	Sub-Regional meetings: Unless sub-regional meetings involve the participation of and contribution by knowledgeable stakeholders, the plan will be ineffective and it will fail. Therefore, knowledgeable stakeholders representing all affected interests, including those of rockhounds, must be sought and included in the meetings and decisions regarding each route designation.
1287	We believe that each sub-region should be addressed separately and thoroughly, and that no subregion should not be combined with another, but should be analyzed separately. Each of the 33 regions is just as important as the next and demand complete analysis and attention. However, should the BLM decide to use the combined process when analyzing sub-regions; a sub-region should be evaluated with differing subsets. For example. Red Mountain might be combined with the Rand sub-region or another combination might be Red Mountain and the Black Mountain sub-regions and differing results for road closures or road openings might surface. How the sub-regions are combined and the criteria for this decision are of great importance. Public participation must be diligently sought and considered.
1287	We are advised that the West Mojave Desert Off-Road Vehicle Designation Project book indicates that the Sub-Regions do not match with what has been proposed in the current plan amendment. The Notice and the maps include 33 sub-regions. The old Off Road Vehicle Designation Project included 20 sub-regions. We are aware of no mention of this in the proposed amendments to the WEMO plan. This adds to the public's confusion and makes it impossible to comment in an informed manner as required by NEPA.
1287	The BLM should begin the road designation process with those roads for which it will be easy to justify the status. For example: Designate R5 and R54 routes as "open" because as both of these route types are through and fenced along both sides. Further, designate Congressionally designated open roads, and spur roads (or cherry stems) serving rockhounding locations and other important recreational sites as "open"
129S	1. When the BLM first drafted the plans for the West Mojave, only interim route designations were made because of the understanding, which was documented at the time, that there would be a collaborative planning process that included robust public participation. 2. Since that time, the BLM has acknowledged and reconfirmed, both at the Resource Area level and the District Office level their commitment to the CAPA process.

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	3. In the current lawsuit over the WEMO plan, only the 'decision tree' process of route designation was invalidated. Neither the necessity of the CAPA process, or BLM's commitment to it were changed by either the formal record of decision or by implication. 4. Not only is the CAPA process a continuing legal and ethical requirement, it is a proactive process that should substantially lessen the possibility of legal challenges through the normal course of give and take we call compromise. 5. Since the current proposal to have the DAC handle WEMO route designations cannot supplant or eliminate the BLM's commitment to the CAPA process, the efforts of the DAC will end up being duplicative. As someone who has considered applying for a position on the DAC, I for one cannot believe that the DAC would be asked to do something that would involve a substantial amount of effort only to have those efforts put to the side at a later date because they were inadequate. 6. I see no reason why, if the CAPA process were begun in earnest now, that it could not be completed in time to comply with the legal requirements of the lawsuit, thereby making the BLM's compliance not a matter of bare necessity, but a model worthy of commendation.
1296	Route Designation: CAPA. The court decision on route designation did not apply and does not apply to the lands involved in the CAPA. Not a single road in the CAPA area was designated using the decision tree which the court threw out. BLM agreed to and promised to do the CAPA route designation as a separate process. If you so decide, it can be a parallel process with the court ordered route designation. It must be clearly separate with separate maps, separate meetings, separate hearings, separate designations and separate everything.
1297	In the current lawsuit over the WEMO plan, only the 'decision tree' process of route designation was invalidated. Neither the necessity of the CAPA process, or BLM's commitment to it were changed by either the formal record of decision or by implication. The CAPA must be clearly separate with separate maps, separate meetings, separate hearings, separate designations and separate everything Since the current proposal to have the DAC handle WEMO route designations cannot supplant or eliminate the BLM's commitment to the CAPA process, the efforts of the DAC will end up being duplicative.
43 CFR 8342.1(a) – Route Designation Criterion A	
1002	Minimizing vehicle impacts upon natural resources and non-motorized uses is dependent upon the basic criteria applied in the initial evaluation of routes considered for vehicle travel. However, this minimization is wholly dependent on the implementation of use limitations on the ground. Without effective designation and use management implementation, adverse impacts to resources, other uses and interspersed/adjacent private lands can occur.
1002	The public was also not informed of route designation decisions/issues on MUC M or U public lands which border route designation areas or how vehicle use would be managed to develop a cohesive program in the 2003-05 WEMO route designation plans.
1002	Significant degradation of natural resources, scenic values and adjacent private lands are occurring on MUC U public lands (Figure 7) and are suspected on MUC M public lands. Yet no discussion of these lands, cohesion to routes on adjacent MUC L lands or responsive treatment for noted problems, was included in BLM's 2003-05 WEMO route designation plans.
1002	The Natural Resources Conservation Service (NRCS) has rated soil series in many various portions of the Mojave Desert as having low, moderate, or high erosion. When coupled with the degree of topographic slope in a particular area, these erosion potential ratings are a good indicator for identifying where to limit or exclude vehicle use. Continued vehicle use of existing routes in certain topography should be evaluated in terms of affected soils, erosion potential data maintained by federal agencies and according to expected vehicle type of use. In addition, route designation efforts should assess whether vehicle use of a particular route will direct vehicle operators to known high-erosion sites. Where this is not accomplished, damage to soils by vehicle use is not being minimized.
1002	The primary recommendation associated with vehicle use impacts to hydrology and air quality is to minimize the number of recreational vehicle routes located in unstable soil areas, steeper slopes and areas that adversely affect watersheds, as well as locations proximal to any urban interface and/or residential area. Routes documented as contributing to excessive soil erosion should be closed. Another recommendation that arises is to make use of all available means to effectively stabilize and rehabilitate designated closed routes that are contributing to soil erosion as quickly as possible.
1002	The BLM could significantly improve both air quality and hydrology by identifying problem erosion/sensitive soil locations and designating the minimal number of routes necessary for thoroughfare travel. Designated closed routes

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	that are resulting in erosion and/or hydrologic impacts should also be stabilized and rehabilitated as quickly as possible.
1002	The intensity, frequency and area of disturbance associated with vehicle use should be minimized on limited use public lands to avoid an often irretrievable loss of native plants and wildlife. Route designation efforts should focus on providing a minimal route network with a focus on thoroughfare travel, as well as active rehabilitation of designated closed routes.
1002	The BLM designated sensitive white-margined beardtongue (Penstemon albomarginatus), which occurs on certain public lands identified for solar development, is also at risk from vehicle use and camping/staging activity.
1002	Suitable habitat for the Mojave monkeyflower is easily disturbed and is situated in areas where frequent vehicle travel occurs.
1002	Visual resource and scenic values should be taken into consideration during the route designation process. The VRM system should be utilized in the consideration of open routes and in the prioritized scheduling of closed route rehabilitation actions.
1002	Vehicle use within streams/riparian areas can disturb wildlife, erode streambanks, reduce structural integrity, dewater shallow streams and increase stream sedimentation
1008	Not only are we concerned about closures of riding trails, we are also concerned about historical points of interest and scenic views.
1016	Routes to First American's traditional gathering and religious locations should not be closed. Routes limited maybe, with a gate or possibly just left open.
1025	Currently designated off road vehicle open areas should also be evaluated for ecological integrity, as well as for the additive and cumulative impacts of these areas on all resources – including air quality. If any portions of the open areas or adjacent routes are determined to be vulnerable to erosion and habitat degradation, they should be managed to preclude irreversible environmental damage as per BLM's multiple use mandate.
1025	As a result, if BLM does not find ways to improve air quality at open areas we are concerned that recreationists seeking cross-country travel experiences may shift use to designated routes and engage in route proliferation and unlawful cross country travel in other areas.
1026	In addition, because a large portion of the planning area is classified as a federal nonattainment area for particulate matter (PM10), any increase in such emissions would not only result in a violation of federal law, but could also lead to unacceptable adverse effects on human health. PM10 particles are a threat to human health because they can be inhaled into the nose, throat, and/or lungs, where they tend to deposit in air sacks. Two major activities that contribute to PM10 emissions are OHV travel and OHV open areas. More open routes will result in an increase in PM10 emissions, which, in turn, will lead to further significant adverse effects on human health.
1046	Riparian areas are rare and every inch of what we have left of riparian areas needs to be protected. Human impacts to these fragile areas (both motorized and non-motorized access) will increase over time and those impacts must be fully evaluated in the proposed plan.
1046	Visual Resources: Many people visit the Mojave Desert for its visual resources. Wide open spaces, miles and miles of visibility, beautiful mountain ridges and large fields of wildflowers. All uses have an impact on these resources. Every proposed use eats away at the Mojave Desert's inventory of visual resources.
1055	all routes eliminated in washes and other ephemeral waterways;
1095	*No ORVs in washes
1250	Route designation should also avoid wildlife areas and riparian areas which are critical for wildlife survival. All routes must avoid proximity to all riparian areas, as they are used by wildlife, photographers, hikers, birders and others seeking the quiet and beauty of such places. Motorized routes should also avoid areas of unique plants and important vegetation resources. Access on foot is more appropriate to such locations and hiking trails and trailheads should be part of the route designation process.
43 CFR 8342.1(b) – Route Designation Criterion B	
1002	These direct and indirect impacts of vehicle use upon vegetation and wildlife resources in the western Mojave Desert do not appear to have been adequately addressed in the BLM's 2003-05 WEMO Plan route designation.
1002	Where routes are designated as open within or proximal to certain wildlife habitat features, specific management actions may need to be applied and closely monitored to ensure vehicle use does not unduly impact these resources. These efforts should also take into consideration the high potential for invasive plant introduction/spread along travel ways, fire ignition risk and the ramifications of global warming on animal/plant distribution in arid lands.

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1002	When uncontrolled, vehicle use can result in the loss of tortoises, degradation of habitat, and seriously undermine conservation/recovery efforts
1002	How exactly an increase in open route mileage furthers tortoise recovery was not explained in the WEMO Plan; a document prepared ostensibly to guide the implementation of tortoise recovery in the western Mojave Desert.
1002	Cross-country vehicle use is also known to crush shrubs important as food and thermal cover for MGS. Areas lacking specific shrubs or highly fragmented by roads may not support MGS populations in certain dry years.
1002	The current limited distribution of MGS suggests a need to closely and carefully manage habitat for the species in any route designation effort involving these eight specific areas. Yet there is no indication this was specifically done in the BLM's 2003-05 route designation effort.
1002	However, there is no indication in the WEMO Plan that occupied or suitable bat habitat was considered in BLM's 2003-05 route designation effort.
1002	There is no indication in the WEMO Plan that bighorn sheep were considered in BLM's 2003-05 route designation effort.
1002	Breeding populations of Bendire's thrasher Potential threats to the species include ORV activity (Remsen 1978).
1002	The gray vireo is known to breed in the San Bernardino and San Gabriel Mountains (Garrett and Molina 1998); specifically in Crystal Creek (Bighorn Subregion). It is also known from Phelan and the Big Rock Creek/Bob's Gap and suspected to occur throughout portions of the Juniper and Bighorn Subregions. It is commonly associated with chamise chaparral, but is often found in more open pinyon-juniper woodland and semi-desert chaparral in the western Mojave Desert. ORV recreation has the potential to disturb this species
1002	The WEMO planning area encompasses a large percentage of the Le Conte's thrasher range in California (Prescott 1998). This species is found in open desert with scattered shrubs and sandy soil (Grinnell and Miller 1944). Washes with cholla (Cylindropuntia spp.) or saltbush (Atriplex spp.) appear to be preferred nesting habitat. The species is known from the Bighorn, Fremont, Granite, Juniper and Kramer subregions of the WEMO planning area. ORV use, especially in the nesting season, could be detrimental to Le Conte's thrasher (Remsen 1978).
1002	Vehicle use and recreational activities can adversely affect avian nesting/foraging habitat and nestling survival
1002	There is no indication in the WEMO Plan that known nest sites, likely nesting habitat or potentially suitable migratory habitat for special status birds was specifically considered in BLM's 2003-05 route designation. Specific habitat types and features which are commonly associated with higher avian nesting rates, such as woodlands, cliffs/boulder slopes and riparian areas should be taken into account in route designation efforts.
1002	ORV impacts, including direct harm to MFTL and associated habitat degradation, have been documented (Beatley 1994) and acknowledged (USFWS 2008b).
1002	There is no indication that occupied MFTL habitat was considered in BLM's 2003-05 route designations, including within the Pisgah or Pinto MFTL Conservation Areas where relatively frequent ORV use was noted in 2010.
1002	These habitat parameters commonly sought by CHL are often common on recreational route shoulders, where individual CHL can be at great risk of vehicular crushing impact. CHL populations are specifically known from high vehicle use areas within the Bighorn and Juniper Subregions. Reptile collection, habitat loss, vehicles, livestock grazing, and the introduction of Argentine ants have been implicated in the decline of the CHL (Jennings and Hayes 1994). There is no indication in the WEMO Plan that occupied or suitable habitat for the coast horned lizard was used as a consideration in BLM's 2003-05 route designation effort.
1002	Tortoises are also known to occur outside designated critical habitat and such occurrences need to be considered in all route designation endeavors.
1022	Specifically, the Proposed Action must adequately study the various activities which pose significant threats to the ESA listed species; including but not limited to the Mojave Desert Tortoise, and how the proposed action will adversely impact the listed species. Such claims of impact and their level of significance must be based on reliable scientific data that are current and supported by standard rules of scientific analysis. That is, studies must: (1) not be biased in their methodology, (2) not draw conclusions based on inadequate sample size, (3) be conducted with sufficient "control" groups, (4) be verified or repeated, and/or (5) not limited to small or localized populations that do not support area-wide or population-wide extrapolations.
1024	As for the desert tortoise, we have traveled 100's of miles on desert roads and have seen only one near a road and we certainly wouldn't run over any. We have raised them legally ourselves from those found in the valley.
1026	For example, vehicles may cause direct mortality of desert tortoises by crushing burrows that may have tortoises in them (Bury and Luckenback, 2002; Seckendorff Hoff and Marlow, 2002). Routes and vehicle use are associated

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	with reduced desert tortoise densities. Bury and Luckenback (2002) found 3.8 times more desert tortoises in an unused area compared to an adjacent OHV area. The tortoises were heavier, more active, and had more burrows in the non-OHV site.
1026	In order to comply with 43 CFR Part 8342.1, for each route the BLM must consider and document the impacts to wildlife; impacts to wildlife habitat; impacts to vegetation; impacts to threatened and endangered species; impacts to all special status species identified in the West Mojave planning effort; impacts to unusual plant assemblages; impacts to designated critical habitats; impacts to special status areas such as DWMAs and Habitat Conservation Areas; impacts to visual resources; impacts to wilderness character and to wilderness quality lands; impacts to cultural resources; impacts to soils; impacts to air quality; impacts to riparian areas, water quality, local hydrology, and watersheds; contribution to wildfire risk; litter and trash deposition; and effects on invasive species including the contribution of the routes and route system to subsidizing food, water, and perching sites for the common raven, and to the spread of invasive plant species.
1026	Important sensitive resources in this area include desert tortoise, Mojave fringe-toed lizard, Nelson's bighorn sheep, western pond turtle, Mohave tui chub, and important riparian areas such as the Mojave River and Afton Canyon.
1026	The desert tortoise and the West Mojave endemic Mohave ground squirrel are protected under the California Endangered Species Act (CESA). Because the public lands are not necessarily contiguous and include inholdings of private land, the BLM's route designation may impact these state-listed species on private lands. Without adequate analysis of potential impacts and provision of adequate mitigation to reduce those impacts to less than significant levels, the route designation may violate CESA.
1028	There is no documentation or data to support closure of any motorized routes in the project area to improve wildlife connectivity. The existing level of roads and trails does not significantly impact wildlife connectivity, i.e. it functions as such with the existing level of roads and trails and closing any roads or trails to motorized use would not make any measurable difference.
1034	we urge the BLM to keep three principles in mind when crafting the environment document for the proposed amendment for the West Mojave Plan with respect to the Motorized Vehicle Access Element. First, all route designations for motorized vehicles, including off-OHV route designations, must be compatible with recovery of the desert tortoise. The deterioration, fragmentation, and loss of habitat as a result of human activities were primary reasons for the USFWS determination in April 1990 that the Mojave population of the desert tortoise is "threatened" with extinction. Today, the loss or degradation of habitats continues to place the desert tortoise at risk. BLM route designations in the WEMO plan area, then, must be such as to protect the habitat necessary for tortoise recovery.
1042	Motor vehicle roads and trails should not lead to riparian areas, and even hiking trails should be placed to minimize harassment of wildlife or significant disruption of wildlife habitats. This need for hiking trails and trailheads should be part of the discussion in the route designation process.
1058	BLM should emphasize the recovery of special-status species in the design of this designated route network. Since critical desert tortoise habitat and mojave ground squirrel habitat make up a large portion of the West Mojave planning area, routes in these areas should be designated carefully and sparingly. The previous route designation plan has more than 5,000 miles of open routes, which amounts to more than one linear mile of route for every square mile in the planning area. This seems excessive for an area with so much sensitive habitat and so many sensitive species.
1146	Co-ordinate wildlife and routes. There are times when it's not in the best interest of either the species or the vehicle to interfere with each other. One example is the raptor breeding closure of the Robbers Roost area during nesting season. Specific restrictions during certain times is better than closing routes completely.
1289	We would also like to make you aware of information that the U.S. Fish and Wildlife Service has gathered regarding the effects of vehicle use. In general, vehicle use directly and indirectly affects listed species, such as the threatened desert tortoise (Gopherus agassizii) and the endangered Lane Mountain milk-vetch (Astragalus jeagerianus), which occur within the planning area.
1289	Summary of effects of vehicle use on desert tortoises and their habitat from the revised recovery plan (USFWS 2011). Vehicle use has both direct and indirect effects on the desert tortoise and its habitat. All references are available upon request.

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	Threat Name - Motor Vehicle Off Route (A.3) Corollary Threats - Air Pollution (E.1) Description - Off-highway vehicle use can contribute to air pollution from emissions and surface disturbance (Ourenetal. 2007) Threat Name - Motor Vehicles Off Route (A.3) Corollary Threats - Fire Potential (A.5) Description - Impacts from off-highway vehicle use include increases in numbers and locations of wildfires (Brooks 2009; Lei 2009). Threat Name - Motor Vehicles Off Route (A.3) Corollary Threats - Human Acces (A.1) Description - Repeated off~highway vehicle off route leads to unauthorized new routes (Brooks and Lair 2009). Unauthorized off-highway vehicle use also results in increased human access and associated impacts such as . deliberately maiming ,killing,and removal of tortoises (USFWS2010). Threat Name - Motor Vehicles Off Route (A.3) Corollary Threats -INvasive plants (A.4) Description - Vehicles serve as a major vector in dispersal of non- (A.3.) native species (Brooks and Lair 2005). Threat Name - Motor Vehicles Off Route (A.3) Corollary Threats - Surface Disturbance (A.1) Description - One of the most significant ecological implications of off highway vehicle routes is the exacerbation of erosion and changes in drainage'pattems(Bury and Luckenbach 2002; Brooks and Lair 2005).OHVs.disturb soil crusts; abrade and pulverize soils, and generate windsurrents (Lovich and Bainbridge, 1999). Off~highway vehicle activity can also disturb fragile cyanobacterial-lichen soil crusts, a .dominant source of nitrogen in desert ecosystems(Belnap 1996). Threat Name - Motor Vehicles Off Route (A.3) Corollary Threats - Toxicants (C.2) Description - ORV emissions also contain a variety of heavy metals, including zinc, copper, nickel, chromium, and lead (Ouren et al. 2007). Threat Name - Motor Vehicles on Unpaved (A.3) Corollary Threats - Air Pollution (E.1) Description - Emissions from motor vehicles contributetoair.p()Hution:' (Faiz etal.1996) Threat Name - Motor Vehicles on Unpaved (A.3) Corollary Threats - Fire Potential (A.5) Description - Most vehicle-related fires are ignited by the hot metal from exhaust pipes. Threat Name - Motor Vehicles on Unpaved (A.3) Corollary Threats - Invasive plants (A.4) Description - Vehicles serVe as a major vector in dispersal of non-native species(Brooks, and Lair 2005); Threat Name - Motor Vehicles on Unpaved (A.3) Corollary Threats -Motor Vehicles Off Route/Illegal OHV Use((A.5) Description - Off route motor vehicles are facilitated by existing roads and access (USFWS 2010).

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	Threat Name - Motor Vehicles on Unpaved (A.3) Corollary Threats -Surface disturbance (A.1) Description - Irnpacts from vehicles on unpaced roads include destruction of soil crusts, and soil erosion and compaction (Brooks and Lair 200S;Brooks 2009; Lei 2009), Threat Name - Motor Vehicles on Unpaved (A.3) Corollary Threats - Toxicants (C.2) Description - Fuel and oil associated with motor vehicles can result in toxic spills; motor emissions also contain a variety of heavy metals (Chafee and Berry 2006). Threat Name - Unpaved roades (A.2) Corollary Threats - Human Access (A.1) Description - Roads provide the ability to enter or passin and from a place from various points within desert tortoise habitat. Dirt roads used for maintenance-related activities provide access to less disturbed habitat (Brum et al. 1983). Threat Name - Unpaved roades (A.2) Corollary Threats - Surface Disturbance (A.1) Description - Disruption or removal of natural surface soil and vegetation within desert tortoise habitat can result from construction and maintenance of unpaved roads.
1289	Summary of effects of vehicle use on desert tortoises and their habitat from the revised recovery plan (USFWS 2011). Vehicle use has both direct and indirect effects on the desert tortoise and its habitat. All references are available upon request. Threat - Motor Vehicles Off Route (A.3) Stress - Crushing Description - Impacts from Off Highway Vehicle use include mortality of tortoises on the surface and below ground (Brooks 2009; Lei 2009) Threat - Motor Vehicles On Paved Roads (A.3) Stress - Crushing Description - Motor vehicles on paved roads can accidentally strike and kill desert tortoises (USFWS 1994). Hoff and Marlow (2002) demonstrated that there is a detectable impact on the abundance of desert tortoise sign adjacent to roads and highways with traffic levels from 220 to over 5,000 vehicles per day. This supports LaRue (1993) and Boarman et al. (1997), wherein depauperate desert tortoise populations were observed along highways. Subsequent research shows that populations may be despressed in a zone at least as far as 0.4 kilometer (0.25 mile) from the roadway (Boarman and Sazaki 2006). Threat - Motor Vehicles On Paved Roads (A.3) Stress - Deliberate maiming or killing (B.2) Description - Motor vehicles on paved roads can deliberately strike and kill desert tortoises Threat - Motor Vehicles Off Route (A.3) Stress - Entrapment/burial Description - Impacts from off-highway vehicle use include collapsing of desert tortoise burrows (Brooks 2009; Lei 2009); such collapses may entomb and kill those animals. Threat - Motor Vehicles Off Route (A.3) Stress - Loss of shelter and breeding sites Description - Impacts from off-highway vehicle use include collapsing of desert tortoise burrows and damage or destruction of annual and perennial plants and soil crusts (Brooks 2009; Lei 2009). Off-highway vehicle activities remain an important source of habitat degradation and could result in reductions in desert tortoise densities (Boarman 2002). Threat - Unpaved Roads (A.2)

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	Stress - Loss of shelter and breeding sites Description - Direct effects to desert tortoise habitat from roads and routes occur during initial stages of construction when vegetation and soils are lost or severely degraded. Construction of these features can result in physical and chemical changes to soils within unpaved roadways as well as in adjacent areas (Brooks and Lair 2005).
43 CFR 8342.1(c) – Route Designation Criterion C	
1002	High use hiking trails should be recognized, specifically in the Juniper, Ridgecrest and East Sierra subregions. These trails should be limited to hiking use and signed accordingly.
1033	Off-road routes should not terminate at or near the State ROW. Too often this activity is distracting to drivers, and continued soil impacts may affect drainage patterns.
1033	Routes cannot cross controlled access highways, like all freeways, except at existing public road connections.
1046	the BLM must balance low impact recreation with motorized recreation.
1046	6) Definitions of special use trails: What is the BLM definition of "touring"? How wide is a single track and what is its use? How wide is a motorcycle only route? Vehicle touring is appropriate in limited use areas. Are Motorcycle only routes compatible with that description? Motorcycle riders continue to be the cause of an increasing web of illegal routes. In the Juniper Sub Region, the currently designated motorcycle only routes are about 10 feet wide and used by quads, side by sides, and even jeeps and trucks. They are no longer favored by motorcycle riders. Motorcycle only routes tend to be used by people who are challenging their riding skills more than touring. All vehicle touring could be accomplished using the same open routes.
1046	7) Street Legal Vehicles ONLY: BLM must consider limiting the use of "limited use" areas such as the Juniper Sub Region to street legal vehicles only. While the type of vehicle does not necessarily have a different impact on the route, the way in which it is driven does have a significantly different impact on the area. Since street legal vehicles require a licensed driver, a citation could have more significance for that driver. The drivers have to be older than kids on green sticker vehicles. Street legal vehicles require insurance. Street legal vehicles have a more visible identification plate. All in all, there is more responsible behavior with a street legal vehicle, rather than a vehicle that is considered as a toy. If the BLM allows green sticker vehicles in the "limited Use" areas, then how the people access those areas must be taken into consideration and realize the provision for "staging areas". Staging areas for off road vehicles and horses become large areas denuded of vegetation, cause dust and noise problems and must be carefully located. Staging areas usually become enlarged over time and therefore must be "contained" with boundary fences and barriers. Even with such considerations, we find that staging areas are not appropriate in the Juniper Sub Region where vehicle touring (not OHV play) is currently acceptable.
1046	Motorized access points should be carefully evaluated so as not to disturb neighbors, impact soils that cause erosion and flooding. Non-motorized access must be identified and clearly marked on the ground, and balanced with motorized access.
10SS	I have observed a steady deterioration in residential quality of life and peaceful enjoyment both for myself and numerous neighbors. This can directly be attributed to the reckless disregard displayed by the BLM's implementation of off - road recreation routes throughout our community coupled with a demonstrated inability to manage the adverse affects of the off road recreation being promoted and abetted by these routes.
10SS	all routes be eliminated in areas of private/public lands interface/checkerboard land use pattern;
1097	There is also the issue of trespass and individual trespass and the law enforcement issue that go along with opening an off road vehicle route through an already established community.
1097	The loss of residential property values that may come from the degradation to our neighborhoods by off road vehicles.
1098	Motorized vehicle use interferes with hiking and non-motorized vehicle use. It is noisy, dusty and not compatible with walkers, hunters, wildlife and bicyclists, whereas the other four groups ARE compatible with each other. Can there be greater seperation of routes between OHV users and all the other people and animals who use the land? I have seen agitation arise between a hunter whose dog was almost run over by OHV users, resulting in threats, whereas hunters have no argument with hikers bicyclists or horseriders.
1101	Illegal DRV activity on BLM lands, especially in areas of private/public land interface has caused extensive conflict between residents and businesses and riders. Large groupings of DRVs on holiday weekends have widespread lawlessness, accidents, deaths and extensive damage to the environment.
1108	Existing dirt road and trails are oriented for four wheel drive vehicles, two wheeled vehicles need single-track trails. These trails exist, however most have been fenced off allowing two-wheeled access. This has created a dangerous condition in mixing four-wheeled and two-wheeled vehicles.

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1163	The issue of private property is also a big key
1250	When designating routes of travel for motorized recreation there must be consideration of other users. Private property owners are greatly impacted by trespass, noise, air quality and even harassment when routes are too close to their property or when routes come up to the property boundaries. There are also dangerous encounters when dirt roads are used by local residents, people touring and OHV and OHV play activities.
1250	Quiet and solitude sought by many visitors also needs to be considered when designating routes, along with the protections of cultural sites. Some routes have gone through habitation sites. Routes must guide OHV's away from these areas.
1284	In fact, the BLM has prioritized off-road recreation above all other uses and values in the WEMO. These policies have also had significant impacts on private property by encouraging trespass off of established routes and by failing to provide adequate law enforcement Studies have shown that the majority of the time off-road vehicles breach designated routes.
1284	Illegal ORV activity on BLM lands, especially in areas of private/public land interface has caused extensive conflict between residents and businesses and riders. Large groupings of ORVs on holiday weekends have led to widespread lawlessness, accidents, deaths and extensive damage to the environment To date, the BLM has failed in its mandate to recover costs for large gatherings and events on public lands thereby shifting the financial burden from event organizers to the taxpayer. Rural communities adjacent to these large-scale events have suffered from the fallout of these events including lawlessness, trespass and damage to private property.
1284	The designation of open ORV routes must be accompanied by a route terminus sign since those routes without such a sign encourages trespass onto private property, public lands and roads off-limits to green sticker vehicles. This is a very serious problem since without the indication of a terminus, riders continue on designated routes past their ends. This leads to trespass on private and public lands and many of these routes cross rural roads leading to the potential for collision with local traffic. The failure of the BLM to place route terminus signs on designated routes places the agency in a position of liability for potential accidents and trespass.
43 CFR 8342.1(d) – Route Designation Criterion D	
1002	Special areas and the resources they are intended to protect need to be specifically addressed in all route designation endeavors. All tools available to inform route designation decisions should be employed, including the use of site-specific evaluations (e.g., field analysis, PFC assessment, aerial photo analysis, etc.). On-the-ground action implementation in special areas should also be a priority, particularly where non-compliant vehicle use is known to occur.
1006	Established conservation areas for rare resources, including Areas of Critical Environmental Concern (ACECs), Desert Wildlife Management Areas (DWMAs), Mohave Ground Squirrel (MGS) Conservation Area etc. should be foci for substantial route reductions based on the plethora of science that identifies detrimental environmental effects of roads, routes and trails.
1015	The BLM proposes to include as part of the road designation and amendment of the CDCA Plan additional changes which are not specifically a part of the road designation process. Should the BLM proceed on this course the Vehicle Access Element of the plan needs to be amended to specifically reflect the wording contained in the California Desert Protection Act with respect to exempt vehicle access in Wilderness Areas.
1016	43 C.F.R. 8342.1 (d) does not apply to the Congressionally Designated Wilderness within the California Desert Conservation Area and BLM may not use this CFR in its route designation process around wilderness. The California Desert Protection Act clearly states that there shall be no buffer zones around CDCA Wilderness. All of the lands up to the boundary of the congressionally designated Wilderness areas may be utilized.
1016	The Society for the Protection and Care of Wildlife believes the process should include

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	the designation as open, all routes which are congressionally designated open ...."cherry stems and wilderness boundary roads" as part of the Wilderness process.
1017	The BLM proposes to include as part of the road designation process and amendment of the CDCA Plan, additional changes which are not specifically a part of the road designation process. Should the BLM proceed on this course the Vehicle Access Element of the plan needs to be amended to specifically reflect the wording contained in the California Desert Protection Act with respect to exempt vehicle access in Wilderness areas. The Closed section in Chapter 3 should read, "No vehicle travel is allowed." Except that Vehicle Access is authorized for the purposes of maintaining and repairing and in times of drought carrying water to guzzlers, and tanks and maintaining wells, and maintaining seeps, springs, and tinajas. Roads leading to the guzzlers, wells, seeps, springs tinajas and tanks will not be closed or eliminated but may be gated with locks.
1017	Routes should be allowed to terminate at the edge of wilderness areas,
1025	Established conservation areas for rare resources, including Areas of Critical Environmental Concern (ACECs), Desert Wildlife Management Areas (DWMAs), Mohave Ground Squirrel (MGS) Conservation Area etc. should be foci for substantial route reductions based on the plethora of science that identifies detrimental environmental effects of roads, routes and trails.
1025	Certainly legislatively designated wilderness areas and wilderness study areas, should not have routes in them. Routes adjacent to these areas should be analyzed for possible closure based on the potential for or actual documented illegal intrusions.
1026	Provide a quantitative estimate of the amount of each route in special status areas such as designated critical habitats, USFWS identified priority habitat linkages between desert tortoise conservation areas, Area of Critical Environmental Concern, Wilderness, Wilderness Study Areas and Habitat Management Areas. Document all sensitive resources including sensitive species habitats and unusual plant assemblages along each route. Provide a quantitative estimate of the amount of these sensitive resources impacted by each route.
10SS	all routes eliminated adjacent to Areas of Critical Environmental Concern (ACEC) and state and federal designated wilderness areas;
1072	I really disapprove of opening up Wilderness areas to motor vehicles.
109S	*No ORVs next to ACECs, Wilderness areas and lands with endangered, threatened or sensitive species.
1100	Routes should be allowed to terminate at the edge of wilderness areas. This facilitates the public non-motorized access to the wilderness interior and complies with the "no wilderness buffer zones". Nor should there be explicit buffer zones adjacent to military land.
1101	We recommend that: all routes be eliminated in areas of privatejpublic lands interface/checkerboard land use pattern; all routes eliminated in washes and other ephemeral waterways; all routes eliminated adjacent to Areas of Critical Environmental Concern (ACEC) and state and federal designated wilderness areas;
1284	In summary, we recommend that: all routes be eliminated in areas of private/public lands interface/checkerboard land use pattern; all routes eliminated in washes and other ephemeral waterways; all routes eliminated adjacent to Areas of Critical Environmental Concern (ACEC) and state and federal designated wilderness areas; all routes eliminated in the proximity of critical habitat and habitat for species of special concern; no routes in wildlife corridors; all routes eliminated in areas out-of-compliance with state and federal air quality standards; and, all routes eliminated that may threaten cultural resources, sacred sites and tribal lands.
Network Purpose and Need	
1001	If any routes have been closed in the past, we ask that they be reopened or be replaced by new routes serving those collecting locations. Similarly, we ask that any routes proposed to be closed under the new plan be replaced so that no further access is lost entirely.
1001	many rockhounds are elderlyor handicapped and unable to travel much of any distance or carry weight very far in any

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	event. This is further reasonwhy we ask that you do not close or place restrictions on any routes that provide access to rock, gem or mineral collectinglocations, or that you replace any that have been or are proposed to be closed.
1001	The proposed WEMO route plan should not be allowed to authorize further "take" of public access for purposes such as rockhounding, OHV access and other forms of recreation. Recreation and public access should not be limited or curtailed to accommodate the possible loss of species resulting from other activities as that would result in additional "taking" of public access for recreational purposes.
1001	The following is a list of collecting locations of great importance to rock, gem and mineral locations for which we request that access be maintained or restored: Calico Mountains (2 maps attached) Mule Canyon (1 map attached) Stoddard Well Area (2 maps attached) Boron (2 maps attached) Castle Butte Area (3 maps attached) Bristol Mountains (1 map attached) Cady Mountains – South and East (3 maps attached) – (Note: no map of "Sandy Wash" is included herewith, but the site was found on BLM's maps while working in coordination with Peg Margosian, and is mentioned in CN1183202.) "Manix" (1 map attached) Clay Mine Road (1 map attached) Cuddeback Mountains (1 map attached) Darwin Hills (1 map attached) Lavic Siding (3 maps attached) Kramer Area (2 maps attached) Last Chance Canyon (1 map attached) Newberry (1 map attached) Black Canyon (1 map attached) "Pleistocene Lake", north of I-15 near Dunn (1 map attached) Cadiz (1 map attached) Chambless (1 map attached) Hector Hills (1 map attached) Hector Road North (1 map attached) Ord Mountain (1 map attached) Hidden Hills (1 map attached) Afton Canyon (1 map attached) – Note: Rockhounds request that vehicular and motorized access to Baxter Wash Loop and to Pyramid Canyon be restored. Much of Afton Canyon and the central Cady Mountains are inaccessible to all but the extremely fit due to route closures. Alvord Hills (1 map attached) El Paso Mountains (1 map attached) Sheep Springs (1 map attached) Bristol Mountains – Strawberry Onyx (1 map attached) – Note: Many rockhounds cannot walk the 2.2 miles from the road to the collecting location since the road was closed and therefore request that the road be reopened to allow vehicular and motorized access. Note: Additional supplementary location maps and other data may be added at a later date as it is received from fellow rockhounds.
1005	Many of the OHV roads and trails lead to private property, and access to those properties should not be compromised.
1007	Trails that are currently open should remain open, since other BLM activities will further reduce the OHV open are footprint for the future solar projects and 29 Palms Marine Base expansion, and thereby criminalize the OHV by eliminating the open areas making it illegal to recreate anywhere else.
1012	Major road systems leading to historically used/visited destinations must remainopen.
1012	All roads to ranch/range improvements – waters – etc. remain open or gated.
1013	Single-track and quad-width trails provide a very different experience for the public compared to using full size roads. The BLM should strive to provide for the ever-growing single-track and quad recreation population since local area fulfillment of their needs is under-achieving.
1013	We have all witnessed the very real dangers of forcing everyone from children to grandparents onto the same road as

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	four-wheeled off-road vehicles capable of high speeds. To address this safety issue, we propose the BLM add single-track trails and quad-width trails in order to help separate these uses from full-size road vehicles and improve safe travel for all.
1016	All routes leading to a seep, spring, tinaja, guzzler, tank, or well, used to provide water for wildlife, should be designated open or as administratively limited.
1017	No more roads to gem and or mineral collecting areas should be closed.
1023	The Proposed Action should continue to authorize, maintain, and enhance the recreational use of the land included in the West Mojave (WEMO) region covered, including motorized recreation, hiking, camping, mountain biking, sightseeing, and horseback riding, as long as such recreational use is consistent with applicable law and existing land use planning documents.
1024	3. Any element affecting travel should include and recognize the right to Rockhound and collect fossils as allowed by Federal law
1024	Any travel plan should recognize the need for those that qualify as disabled and senior citizens who need to have easy access to enjoy and use our public lands. We can't walk for long distances, carrying equipment or even a few rocks picked up.
1024	Such plans need to recognize the need for camping in remote areas and they need to be more than one car length from a dirty dusty road for health and safety reasons.
1027	Many of the OHV roads and trails lead to private property, and access to those properties should not be compromised.
1028	Multiple-use visitors also include physically challenged visitors who must use wheeled vehicles to visit public lands. All of these multiple-use visitors use roads and motorized trails for their recreational purposes and the decision must take into account motorized designations serve many recreation activities, not just recreational trail riding.
1028	The Purpose and Need does not adequately address and recognize the current highly popular level of motorized access and recreation and the need for increased motorized opportunities.
1028	There is a significant need for Youth Loops. Youth Loops would include a small area of several acres, either contained by fencing or clearly marked boundary, with short, tight trail system that is designed to entertain kids under adult supervision. The youth loop offers an alternative to unauthorized routes near camp areas and riding in campgrounds. A good example to refer to is the Lewis and Clark National Forest Travel Plan for the Little Belts. We request that this important need be adequately addressed in the preferred alternative.
1028	Single-track challenge trails are needed for expert riders and trials type motorcycles.
1028	The West Mojave Area project area has far less than the desired number of motorized trails. This creates two problems. First, the public will tend to "explore" closed routes in an attempt to salvage a decent outing. Secondly, it produces an unsatisfactory OHV experience.
1028	The evaluation must adequately consider the growing popularity of motorized recreation, the aging population and their needs for motorized access, and the increased recreation time that the aging population has and looked forward to enjoying public lands in their motor vehicles.
1028	We are concerned about the loss of access and impact on the handicapped, elderly, and physically impaired produced by each motorized closure to historic sites and traditional use areas.
1035	It is important to us to have access to the area's remaining collecting sites to gather mineral specimens.
1037	Due consideration must be afforded continued motorized access to the West Mojave (WEMO)of theproposed project area. The region is a popular destination spot for multiple forms ofrecreation, including but not limited to: four-wheel drive touring/driving for pleasure,rockhounding, photography, and wildlife viewing. These are activities that cannot be enjoyed,or replicated, in that diversity in other regions.
1037	The loss of access to the West Mojave (WEMO) region for recreation opportunity is a direct loss. There are also indirect impacts that would result should this Proposed Action be approved and implemented causing displacement of recreational activities. Those costs include, but are not limited to: (1) the increased enforcement required at other sites when displaced recreational users seek out other areas that may be poorly identified as wildlife preserves or other resource rich areas; (2) the loss of biological resources or habitat at other sites that displaced recreational users may utilize; (3) the loss of nature education; (4) the loss of outdoor recreation opportunities; (5) the loss of outdoor access and experiences for children in the community; (6) the loss of familial traditions, custom, and

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	culture of recreational and nature-oriented activities in the region; and (7) the loss of the region's history and traditions, specifically with respect to mining and recreational activities.
1038	I don't believe any road present before 1980 should be closed. I also thinks all mining access should be allowed. EP 15 is my access to my and other miners claims.
1042	the BLM must consider the many activities that abound in the area and not just OHV touring.
1042	the BLM must contact the property owner to determine whether that route should be designated open, limited to authorized access, or closed. If no contact is made with the property owner, the route should be closed.
1048	I am requestion gthat the BLM not close or restrict our public land any further
1052	I don't feel we should close all routes but one into an area , as this channels people into one over used route also increasing likelihood for accidents. With closure of OHV areas there will be a huge amount of increased traffic for those few areas allowed access.
1053	please retain as much trails as possible. The longer trails are safer as they reduce the hazard of two-way traffic. Keeping trails connected is safer as well. Please implement single track trails for motorcycles.
1056	I think sheltering places to protect wildlife is rule. but, as a rock hound, being able to approach areas for stone is also a necessity. I comment that ways to balance the two be approached
1069	We need to maintain roads into historic, reparian, cultural, geologic, and scenic sites so that All citizens have access to them, inculding the aged and handicapped. Sites that are sensitive such as springs and Indian ruins should be secured and roads should probably end 100' away, as a safeguard.
1070	Please consider keeping our public lands accessible by motorized vehicles and continue to allow rock collecting on public lands.
1071	But I and others, still think that a couple of parking lots for ORV'S would be a good thing,
1082	The closure of existing roads that provide access to federal mining claims creates a particular hardship forsmall scale miners who own or lease federal mining claims and pay annual maintenance fees to the BLM. Thisis so because the nature of mining, even small scale mining, requires the use of tools -- typically picks andshovels and small scale dry washers [hand or battery operated consistent with current BLM regulations] andmetal detectors. If a road is posted as closed, there is no practical alternative to the use of a motorized vehiclefor accessing these claim locations with the aforesaid types of equipment. The amount of travel is minimal,typically consisting of a drive directly to the claim site where the motorized vehicle remains until the time todepart, i.e., one trip in and one trip out. This stands in sharp contrast to recreational bikers or ATVers who havethe option to choose other roads that are not closed, who pay no annual maintenance fee and who do not own orlease federal mining claims.
1083	subject = BLM Road Closures FeedbackType = Comment request_comment = I am distressed to hear of the possibility of road closures in the Mojave Desert. I ride my horse in many of the areas you propose to close to traffic. I certainly support any organization that opposes these closures.
1087	Gem and Mineral Collectors have lost access to 98 percent of their collecting areas. No roads to collecting areas and mines should be closed.
1088	I am writing to respectfully ask that no more restrictions be put in place for motorized vehicles in the WEMO area.
1089	There would be better compliance if there was more trail opportunity, This is bottom line fact
1091	The WEMO Plan for closing a number ofroads on our public property will not only affect the use by prospecting organizations, gem and mineral groups, other outdoor clubs and also a large segment ofthe local community as well. Many area people use these roads for recreation and family outings.
1100	More single track routes need to be designated. One of the short falls of the interim designation process is that BLM has designated wide basic roads and not enough single track trails for motorcycles and bicycles. One unfortunate result of compliance and restoration efforts has been the loss of popular networks of historic but undesignated single-track motorcycle trails. The BLM should include these in the route designation pool.
1100	Gem and Mineral collectors have lost access to 98 percent of collecting areas in the California Desert Conservation Area which was 87 percent of California collecting. No more roads to gem and or mineral collecting areas should be closed.
1100	Roads leading to extreme riding or driving places, which are few and far between and require specialized terrain, should not be closed.
1103	Vertebrate fossils from the Mojave Desert are important to the North American continent for interpretation of climate, faults, floods, and continental biostratigraphy. Such assistance to the BLM

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	cannot be accomplished without legal access to select sedimentary formations. The established routes that need to remain open have been in use by paleontologists and campers for 60 to 100 years. Preliminary data justifying the significance of, and continued field research is available (Savage and Downs, 1954; Kurten and Anderson, 1980, Lundelius et al., 1987; Jefferson, 2008a).
1110	 I am the Vice President of the Orange County 49er\'s. We have eight claims in thearea with over 250 members that use our claims and prospect the desert al the the roadclosures are going to effect us and will end up in court if that is nessesary, as you can notrestrict access to a mining claim.
1132	Under the rules pertaining to the Paleontological Resources Protection Act, professional and trained vertebrate paleontologists are the only qualified persons who can legally help the BLM manage these non-renewable resources. I have been involved in these studies for over 50 years, and it is absolutely essential that we maintain access to areas with such resources to facilitate ongoing research and periodic prospection for fossils as ongoing weathering exposes new specimens.
1138	I am going to speak only for myself and those with common interest, which is rockhounding and enjoyment of the desert, which I have been doing for the past approximately 60 years. Please take into account that we are not those who leave the roads, dirt or paved, and who will not destroy any part of the desert. So many of us, like myself, are well up in years and cannot hike into our favorite areas, and those who might could easily get themselves into a world of trouble. All we ask is vehicle access on existing roads
1139	These areas need to remain accessible to rockhounds to enjoy their hobby. One is the Paul Bunyan Agate site off Copper City Road. By the signs found it appears to be open now. Another is the Butler Onyx site on the north side of the Calico Mountains. Another is the Sagenite Agate site in the Calico Mountains. The road is open towards the site but is needs to transverse part of the road to a spring, and that is closed, but the Sagenite site continues off and WEMO_1139 past the spring. At the moment it appears that the Sagenite site is unavailable due to the segment of road closure to the spring. The Sagenite site should be open for access. Another is the petrified palm in the Mule Canyon, Calico Mountains. Another is the Lavic Jasper/chalcedony sites in the Pisgah crater, Lavic Siding, Cady Mountain bajada area. All of the Cady Mountains should remain accessible on existing desert roads. This is an area that has been visited by rockhounds for years and continues unspoiled with rockhound exploration. There are many areas that dirt roads enter the Cady Mountains -- they should remain open. The road to the Strawberry onyx on the east side of Broadwell Lake is now signed closed. This classic onyx site should be open to rockhounds. Why is this area designated closed? Please change the category. Further on the west of Barstow is the Kramer Hills area that has agate & jasper. This should be open for rockhounds. And on over to the Boron, California City area are more sites famous for their agate & jasper. These areas should also be open.
1146	If you close all the remote areas andlor make them unavailable, to most of the recreating public, those of us that don't want to be part of the herd, have no place to go. Being officially mobility disabled, I can still find serenity in those remote places I can drive to. I use my Jeep as a 4 wheel drive wheelchair. There are lots of us older folks with similar problems, desire access to those areas that are less traveled.
1146	Allow access to critical areas of the desert by volunteers servicing critical habitat, like those servicing wildlife guzzlers, fire suppression personnel removing brush around cabin sites, and those removing invasive species in isolated areas. Having to walk into these areas many times negates the effectiveness of the volunteers.
1146	Make allowances for those less able to move around normally. Time stressed local citizens may want to spend a short amount of time in an area Senior citizens, the mobility handicapped, and those otherwise inhibited cannot walk 10 miles a day, or climb Telescope Peak, or ride a horse through the backcountry. They still deserve to participate in the glory and serenity of the desert!
1155	I recommend that routes indicated on the attached maps and table be left open for vehicular access by collectors.
1158	I desire to visit sites used historically to collect minerals and semi-precious gemstones, est. by the indian wells gem and mineral society over 50 years ago. These sites need vehicle access to transport hand tools and rocks
1159	Open routes, allow camping hiking, climbing, and rock hounding
1159	Understanding that open routes are necessary to camp, hike, and climb, will allow for a more balenced planning that does not lock people and families out of the desert.
1184	Love to see more single tracks open, like technical trails.

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1198	Need more open space for riding
1200	to many people to little trails
1201	Open up more trails
1202	Please open up more trails
1203	more trails makes it safe
1204	Open the trails
1205	Open up more trails
1206	Open up more trails
1207	Keep all trails open
1208	Please stop closing all the fun trails
1211	Keep the trails open
1212	Safety
1213	Open more trails so it is safer
1214	Open new trails
1215	Open new ones
1220	If there were more opportunities to explore this great land I believe it would attract more new comers and retain reoccuurring folks. It would make me more conforatable to ride and I imagine, reduce accidents due to overpopulation
1221	Would like to see more singletrack
1222	More single track routes need to be installed for not only safety concerns
1225	I would like a trail to the store that I can ride that doesn't have dunebuggies on it
1227	We would like to see more open trails
1238	Would like to see more open trails to enjoy
1242	Safe trail systems for all ages and skill levels
1256	In 1992 this area was taken from the open area. This area had been raced for 20 years. If Johnson Vally is lost to recreation the best place to replace it is this area. [Map depicting area southeast of Ridgecrest, CA]
1263	Many of our club, myself included, are senior citizens who have enjoyed the beauty of the desert for many years. We still enjoy the outdoors and the uniqueness of the Mojave Desert but we are not able to hike or walk for long distances. We need roads to get to some of our favorite areas.
1266	Many of our club, myself included, are senior citizens who have enjoyed the desert for many years. We still enjoy the outdoors and the beauty of the Mojave Desert but we are not able to hike or walk for long distances. We need roads to get to some of our favorite areas
1269	Enclosed is copies of various claims used by the High Desert Gold Diggers, Valley Prospectors, Orange Co 49 'Ers that I have in my possession. The areas include: Coolgardie Area; Lane Mountain Area; El Paso Mountain (Randsburg) Area; Ord Mining District; Dale Mining District. Also included is the copies of the GPAA (Gold Prospectors Of America) claims in the Coolgardie Area.
1287	A large number of rockhounds (and other recreational users) are elderly or disabled persons who have limited physical abilities and therefore require motorized vehicular access to public collecting areas and other recreational sites. These persons do not have the ability to hike any significant distance to access collecting locations and other recreational destinations. Therefore, closing public motorized vehicular routes that serve collecting sites and other recreational destinations constitutes unfair discrimination against them in particular. We strongly recommend that the BLM consider this in analyzing the routes that it will designate as "open". Public lands belong to all of us, not just those who are healthy enough to hike to their chosen recreational destination.
Range of Alternatives	
1006	As part of this process, the BLM should include in the EIS alternatives that are more protective of the environment, including at least one low density alternative that includes a mileage/density cap (miles of road per hectare) for designated routes based on special designations (ACEC, DWMA, WHMA, etc.), MUC classes and the conservation status and goals. Because of the many unauthorized vehicle routes created after 1980, the density of routes today in the West Mojave is far higher than is needed for travel, reasonable recreation, or access to identified destinations.
1017	The BLM has indicated it proposes to develop only one process utilizing one criteria for the route designation process. The SPCW believes upon reading the "remand" document that the BLM has an obligation to develop more than one route designation process and more than one road designation scheme and that there be differing route designation

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	designs in those alternatives. We believe the court is asking for alternatives from which she may pick.
1025	The definition of a "viable" route network needs to be explicit and alternative definitions explored. This could include analysis of the minimum route system needed to travel across a region, the minimum needed for reasonable access to recreational destinations, etc. The EIS should also consider at least one alternative with user limits at open areas.
1025	The BLM should clearly state what the proposed plan amendment is in the EIS and should include a number of alternative route designations scenarios.
1028	Reasonable alternatives to motorized closures must be pursued. The continual loss of motorized recreational opportunities is our primary concern. Because of the significant cumulative effect of motorized closures at this point in time, we feel strongly that there can be "no net loss" of motorized recreational opportunities with the Environmental Assessments for 8 Travel Management Areas within the West Mojave Area.
1028	We ask that management for sharing of these lands for multiple-use be selected as the preferred alternative. Sharing would include a 50/50 sharing and equal opportunity of non-motorized to motorized trails.
1028	The Environmental Assessments for 8 Travel Management Areas within the West Mojave Area must include the evaluation of a pro-recreation alternative so that motorized recreationists do not end up losing before the process begins. A true pro-recreation alternative should be based on the actual usage of the area which is 99% motorized multiple-use in the case of the West Mojave Area. A reasonable alternative should include: a. Sharing non-motorized trails with mountain bikes and motorcycles, b. Creating new mountain bike and motorcycle trails, c. Creating ATV trails from roadbeds that both currently open and closed, d. Creating new ATV trails e. Creating new ATV trails that connect with converted roadbeds to create loops, and, f. Establishment of 4x4 challenge routes using roadbeds that are both currently open and closed including historic mining routes.
1028	An adequate and reasonable preferred alternative would include an adequate quantity and quality of beginning, intermediate, and advanced routes and trails for a wide cross-section of motorized visitors including motorcycles, ATVs, and four-wheel drive vehicles. Additionally, the quantity and quality of motorized routes would be at least equal to the quantity and quality of non-motorized routes. This is the yard stick that the team should measure travel plan alternatives by.
1028	Therefore, it is incumbent upon the project team to formulate at least one alternative that maximizes motorized recreation, or at least does not reduce motorized recreational opportunities in the planning area.
1028	All roads to be closed to full-size vehicles should be converted to atv routes. This is a reasonable alternative for all existing roads.
1028	The preferred alternative must provide for an adequate number of routes as required to provide access to the many historic mines and cabins and an adequate number of dispersed campsites and trailheads.
1028	The existing level of access and motorized recreation is a reasonable starting position and alternative. An even fairer position given that this should be a travel plan seeking to address the needs of the public for motorized access and recreation would be an alternative based on an enhanced level of opportunity.
1042	We expect the BLM to fully consider a full range of alternatives that may even result in a reduction of overall mileage and/or elimination of "motorcycle only' routes in sensitive areas of the Juniper Sub Region.
1042	If the BLM does include an alternative which includes "motorcycle only" or "single track" routes or (other special use routes) we expect the BLM to fully disclose the definition of such a route, how wide it is, whether the 300' stopping/parking rule applies, if the route is open for 3 or 4 wheel vehicles, etc. and how the BLM intends to ensure that such routes will be managed and maintained so as not to become full width routes.
1087	The BLM has indicated it proposes to develop only one process utilizing one criteria for the route designation process. We believe, upon reading the "remand" document, that the BLM has an obligation to develop more than one route designation process and more than one road designation scheme and that there be differing route designation designs in those alternatives. We believe the court is asking for alternatives from which they may pick.
1100	The BLM has indicated it proposes to develop only one process utilizing one criteria for the route designation process. The RACC believes upon reading the "remand" document that the BLM has an obligation to develop more than one route designation process and more than one road designation scheme and that there be differing route designation designs in those alternatives. We believe the court is asking for alternatives from which she may pick.
1163	In the Big picture of WEMO, let me say that because of the lawsuit and the expectations to have alternatives, I feel that

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	the need for more single track, 50 inches or less, is a desirable goal for those who want that type of experience.
1289	Our primary goal in providing these comments is to request that you consider an alternative for amending the motorized vehicle access element in a manner that maximizes the potential for the recovery of listed species and degraded habitat.
Data and Route Inventory	
1001	We recommend that the BLM include a process by which geographic information reflecting the interests of rockhounding, other forms of recreation, and public access be gathered and inventoried and clearly identified on an official map set for the decision making process. We know that rockhounds want to contribute to this effort, but do not have the resources to map the information themselves, nor should they be assigned the burden to do so.
1001	In addition, they have information regarding rocks, gems, minerals and fossils found in their areas which they offer to the public on their websites. Books have been published by authors such as Mary Francis Strong that identify rocks, gems, minerals and fossils found in the Southern California deserts and the locations in which they are found. Historic publications such as Desert Magazine which document rock, gem and mineral collecting locations in the Southern California Desert District and beyond have been digitized and are available online free of charge. All of these sources should be utilized by the BLM in identifying collecting locations and the routes needed to access them so that potential impacts to the public's access to them can be considered and avoided or mitigated.
1001	We incorporate by reference the collecting locations listed in all editions of the well respected and well-read books such as Rockhounding California by Gail A. Butler and Gem Trails of Southern California by James R. Mitchell, as well as the collecting locations listed in Desert Magazine and in all books authored by Mary Francis Strong on the topic, and request that access to each of the collecting locations listed therein be maintained or reopened.
1001	We also incorporate by reference collecting locations listed and reflected in the California Desert District Hobby Collection Map and accompanying index produced by R. Waiwood for the BLM California Desert District in January, 2003, and any additions thereto, and request that access to each of the collecting locations listed therein be maintained or reopened.
1001	We further incorporate by reference the GIS information prepared by Peg Margosian, GIS Specialist of BLM's district office in Moreno Valley, California, regarding collecting locations derived in coordination with myself upon joint review of rockhound location maps at meetings in her office, and request that access to each of the collecting locations identified therein be maintained or reopened. A copy of a list provided at the end of our last session is attached hereto and incorporated hereby for your reference
1006	Moreover, all current routes should be inventoried and evaluated for conflicts with biological and other rare resources as well as ecological, hydrological, eolian and other physical processes. That the BLM is able to undertake such an approach. was shown in the Ord Mountain Route Designation Environmental Assessment process (BLM 2000) which was a comprehensive process that was abandoned by BLM. BLM should consider replicating that process throughout the West Mojave area as it was originally proposed to do.
1006	In an attempt to understa.nd more about the route proposal, the Center has requested the route inventory as GIS information so that we can accurately assess the impacts to other resources, but to date have not received the requested data. On February 1,2012, I contacted the district wildlife biologist, Larry LaPre inquiring whom I should contact regarding the route data in GIS. On February 2,2012, Dr. LaPre directed me to Peg Margosian, whom our GIS person contacted. Ms. Margosian forwarded on our request to you, Ms. Seehafer, but we never received a response. In order to effectively participate in the public process, we again request the current proposed route information in GIS format.
1006	the California Department offish and Game is currently implementing rigorous vegetation mapping in the West Mojave area, in support of the DRECp2. These data need to be incorporated into the environmental analysis and used as a basis for route evaluation.
1006	Regarding connectivity for wildlife', several new data sets are now available and should be included in the analysis. SC Wildlands has produced the "Linkage Network for the California Deserts 4. In addition, the USFWS has produced a map of essential linkages for desert tortoise (Attachment 1), which should also be incorporated and analyzed in the EIS. These areas are critical to keep the west Mojave desert's wildlife connected, and therefore should be analyzed as highly protected areas.
1009	There has never been a complete, and 100% accurate, route survey in the WEMO Plan area. For this reason,

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	so that the public at large can properly establish a more accurate amount of routes which have been lost in and around the WEMO route system, the BLM should release in electronic form, on the Internet, all data and information relative to any governmental mapping effort for this region. For the purpose of this request, "region" is to include not only the WEMO Plan area, but also all those lands in public or military ownership, for a range of one-hundred (100) miles from the exterior boundary of the WEMO Plan area. This information should also include historical USGS Topographic maps at the highest resolution and detail available for the same area.
1009	On all future draft and final maps relative to this action, an indicator should be included to show routes which extend beyond the WEMO Plan area.
1015	The inventory of springs and seeps should also include tinajas, guzzlers and tanks.
1015	BLM should leave the words "existing roads and trails" in the CDCA Plan however it should be clarified as to reflect that this does not just mean 1980. It could also mean whatever roads are in existence on the ground when ever access issues are determined.
1016	The Society believes the BLM should identify all those roads in existence in 1980. First cut should be all the roads within the CDCA and on pre 1980 U.S.G.S. Quads. Then those roads on AAA maps from that time. (These roads were ground truthed at the time and so we know they existed at that time.) This would be a great start on a base map to be used for the process. Should BLM choose not to do this, the public should be given the amendment the BLM proposes to use to change the California Desert Conservation Area Plan so that the public can submit scoping comments on the proposed plan amendment. The Society for the Protection and Care of Wildlife believes that the BLM proposed WEMO amendment to the California Desert Conservation Area Plan must amend the entire plan and not just the WEMO portion.
1016	The WEMO route designation amendment of the California Desert Conservation Area Plan being worked on now, needs to inventory every route, the paved roads, the graded dirt roads, the ungraded dirt routes, the single track routes, the rights of way, all routes in approved plans of operation, ALL ROUTES OF TRAVEL open or closed.
1017	Routes and route segments that are identified for analysis and designation should include: all routes originally within the 2004 designation pool; all routes identified in subsequent BLM surveys; routes identified by the public; and routes considered by previous designation efforts, i.e. Jawbone-Butterbredt ACEC, Rand Mountains Management Area, Ord Mountains.
1017	The court mandated inventory of seeps and springs and their condition should also include tinijas, guzzlers, tanks and wells.
1017	The SPCW is concerned that the original WEMO maps have not been ground truthed to any degree. For example: the WEMO maps for the Slate Range. This map shows three open routes near Manly pass, none of which are actually on the ground even close to where shown. The BLM has posted closed signs on one of the three existing routes yet an open route shown on the map is a virgin canyon with no tracks.
1022	BLM must take into account all previous data and analysis from planning efforts spanning almost three decades in this Proposed Action.
1025	However, all current routes should be inventoried and evaluated for conflicts with biological and other rare resources as well as ecological, hydrological, eolian and other physical processes. The Ord Mountain Route Designation Environmental Assessment process (BLM 2000) was a comprehensive process which should be replicated throughout the West Mojave area as it was originally proposed to do.
1025	BLM need to use the best information to identify the existing route/roads/trails network from 1982, and then compare those data to the current routes/roads/trails data. All routes/roads/trails need to be evaluated for conflicts with resource concerns. If adequate and comparable aerial photos are available, they could be used to document the routes/roads/trails.
1026	Unfortunately, the BLM has not provided GIS layers showing the current authorized route inventory for the eight TMAs or the boundaries of the TMAs. Without this basic information, it is difficult for the public to provide meaningful proposals to help the BLM at this time. Please ensure that when any proposed actions are forthcoming that the relevant GIS data is made available so that the public can assist the BLM as is the clear intent of the National

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	Environmental Policy Act ("NEPA").
1026	For each identified route, provide the length and width. Determine the total area occupied by each route. Quantify the area of each route by soil type and by vegetation type. Document and quantify the number of wash and canyon crossings and adjacent riparian areas for each route.
1026	For each designated route provide an estimate of the number of other unauthorized routes that lead off that route to provide information required to ensure that the proposed system does indeed minimize conflicts between off-road vehicle use and other existing uses.
1027	Many guzzlers and other wildlife maintenance apparatus are located in the study area. Not only should these all be mapped and identified, access to all of these areas is critical and must be included in any new plan.
1027	All roads and tails on maps must be ground – verified. The current mapping contains many errors, in order that these errors do not become part of the finished product, site specific analysis is needed.
1028	It seems that both the BLM and Forest Service are using forest planning and travel management planning as an opportunity to close as many motorized recreational opportunities as fast as possible. We are asking that this project establish a baseline evaluation and address this significant impact.
1028	NOTE: PLEASE PROVIDE DATA AND ANALYSIS SIMILAR TO THE FOLLOWING FOR THE ENVIRONMENTAL ASSESSMENTS FOR 8 TRAVEL MANAGEMENT AREAS WITHIN THE WEST MOJAVE AREA ANALYSIS. THIS INFORMATION WILL SUPPORT ADDITIONAL OHV OPPORTUNITIES. [Insert containing data and analysis regarding travel management in certain U.S. National Forests]
1028	Furthermore, we request that the data in the next two tables be updated to reflect the significant reduction in miles of roads and motorized trails that decisions have produced since this data was assembled. This revised data should be used to guide the decision-making to forest plan and travel plan alternatives that adequately meet the needs of the public by increasing motorized recreational opportunities in the national forest system.
1033	Corrections should be made to the Middle Knob map: o Change State Route "29" label to "14" (south of Mojave). o Show the current SR 58 freeway a1ignment north and east of Mojave.
1037	The GIS/GPS data collected for the WEMO process must be made available to the public to enhance their ability to understand the review and analysis process.
1042	Previously disturbed places for stopping and parking should be located and mapped so people know where they can park without disturbing more vegetation.
1042	Language in the WEMO plan regarding route designation and use must be improved. Previous language used phrases such as routes that were to be "encouraged" leaves one wondering if cross country vehicle travel is okay. Language must be much clearer, stronger and more meaningful.
1042	The BLM has a responsibility to come up with a set of maps that depict a reasonable baseline from which to work.
1046	Please look at the maps that are available to the public yourself: Here are some items that are of concern: a) There is an annoying disclaimer that bounces around the map as you move the mouse. It states that the maps are representational only. When will the BLM come out with some real, accurate maps? How can the public be expected to make sensible comments if the maps are not considered complete or accurate by the BLM? b) Not all the open routes signed on the ground are on the map. How do we comment on the ones that are omitted? c) Many of the open routes don't have a number on the map. What is the status of those roads? d) Some of the numbers do not appear to be on the open route. e) It is not clear on the map what some of the unnumbered lines are: open or closed route, footpath, powerline or if it is a stream. How do we comment on those items? f) Some roads are marked 4wd which are limited/private use with a locked gate. Unless you are on the ground and find the gate you don't know it, and even then, you may wonder why there is a locked gate! If we were not so familiar with the area, we would not know about the purpose of such routes or gates. These routes, which give a right of way to a rancher/miner/guzzler must be on the map and accurately annotated as a "route for permittee only". g) There are very few place names and many of the important features are not included, which makes the maps almost

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	useless. Even well known roads such as Bowen Ranch Road are not named. 3N14 and 4N16 are not named as such, but those are the numbers on most county and area maps as well as GPS. h) There are no grid lines or coordinates for reference, making it very difficult to navigate. i) Open routes in the USFS boundary to the south are not included on the BLM map. The BLM has said that they work with the USFS to ensure connectivity, but the public has no way of visualizing that connectivity. j) The topography is not shown. This makes it difficult to determine accurate comments.
1047	Adequate Adequate maps are those that contain a standard set of features which would include the following (these can be provided in GIS layers): topography and names of features such as mountains, streams etc some way to identify the area such as coordinates or Township etc. blue line streams, springs riparian vegetation and other vegetation types sensitive species Wilderness areas and WSAs ACECs Other areas of special scientific interest soils Currently active mining claims and rights of way disturbed lands including closed mine shafts,quarries, areas used for camping/shooting etc transmission lines and rights of way Railways and rights of way Communication towers and rights of way Other rights of way wind energy testing sites and location of towers or proposed towers Grazing allotments and improvements such as cattle guards, fences gates etc Boundaries with other agencies (such as parks and US forest lands) should also show the open routes in those lands and the non-motorized zones as well as boundary fences etc. other fences Routes should be differentiated between full sized roads, currently street legal only, OHV trails, and single track with the width provided Hiking and Equestrian trails Visitor centers, kiosks etc Ranches and homes as well as private property Places of historic interest
1047	I am sending you a copy of my request that the BLM provide adequate maps so that the public can make informed comments regarding the WEMO route designation process. The BLM has updated maps for many areas regarding the items that would be helpful to me and others in making comments, but the only maps available to us are rudimentary and lack any sort of detail. In fact, with most maps, it would be very difficult to follow the routes on the ground, even with the open route signs posted at intervals. This is because, on the ground, there are a multitude of routes that are designated as closed (but not marked), and there are also miles and miles of new routes created by the public without the BLM designation process (volunteer or illegal routes).
1055	The BLM must publish accurate maps of the entire region and make them available to residents both on-line and in a hard copy for no cost. These maps should be available to the public at public meetings, at the BLM offices and via mail. One factor that contributed to the inaccuracy of the WEMO maps and route designations was the lack of ground-truthing in these areas. The BLM needs to apply Global Information System (GIS) technology to overlay critical habitat, private lands, ACECs, Desert Wildlife Management Areas (DWMA)s, and the Morongo Basin Wildlife Linkage Design[4] (see attached) to compare with proposed routes.
1055	Baseline Information In order to develop a travel management policy with a solid foundation, the BLM must include the latest scientific information and studies on the following: • impact of ORVs on critical habitat, ACECs and habitat for threatened, endangered, rare and BLM sensitive species

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	• the number of accidents involving ORVs and an accounting of citations issued by all relevant law enforcement agencies on a yearly basis since 1980 • the extent of ORV damage to soils, wildlife habitat and plant communities within the WEMO • the capacity of the BLM to provide law enforcement for the WEMO area • the impacts of ORVs on washes, unusual plant assemblages, and riparian resources • the impacts of ORVs on air quality within the WEMO area, especially in areas that are out of compliance with state and federal air quality standards for both PM 10 and PM 2.5 air pollutants, and the health impacts of this fugitive dust • the cost to local governments from ORV law enforcement and related emergency response, and ORV damage to roads, berms and flood control infrastructure • the impacts of ORVs on cultural resources and tribal lands • the potential for the spread of non-native invasive plant species
1057	In the proposed plan amendment, the OHV "Limited Use Areas" should include, at a minimum, those "routes of travel" identified as appropriate for such use in the new route designation process. In other words, the new route designation process will redefine the baseline for determining which routes are part of the WEMO Plan and which ones are not.
1057	BLM must ensure that the routes identified for inclusion in the plan amendment are "ground-truthed" as to location, width, length, and potential impacts on resources and other uses. Further, to the extent BLM can analyze however imperfectly - the effects of the proposed network as compared to those of the network that existed in 1980, this should be done.
1087	The inventory of springs and seeps should also include tinajas, guzzlers and tanks.
1087	In 1980, the year mentioned by the judge, there were 30,000 miles of roads in the California Desert. The original maps that were drawn up, should be made available to the public as their input had been requested and was considered part of the basis for the decisions. Without these original maps the road designation process will be considered flawed by NEPA standards.
1095	BLM should inventory all "previously disturbed" sites.
1098	I have looked at your maps and I am unable to understand them. The BLM must do better. If I cant understand where OHV users can go, how can they?
1100	The court mandated inventory of seeps and springs and their condition should also include tinijas, guzzlers, tanks and wells.
1100	The RACC is concerned that the original WEMO maps have not been ground truthed to any degree. For example: the WEMO maps for the Slate Range. This map shows three open routes near Manly pass, none of which are actually on the ground even close to where shown. The BLM has posted closed signs on one of the three existing routes yet an open route shown on the map is a virgin canyon with no tracks.
1100	Routes that are not listed as part of the designated route system, yet exist on the ground need to have a site GPS completed and be assigned a number and be made part of the designation system.
1101	In order to develop a travel management policy with a solid foundation, the BLM must include the latest scientific literature on the following: • impact of DRVs on critical habitat. ACECs and habitat for threatened species and species of concern. • the number ofaccidents involving DRVs and an accounting ofcitations issued by all relevant law enforcement agencies on a yearly basis since 1980 • the extent of damage by DRVs to soils, wildlife habitat and plant communities within the WEMD • the capacity ofthe BLM to provide law enforcement for the WEMD area • the impacts of DRVs on washes and other ephemeral waterways • the impacts ofDRVs on air quality within theWEMD area, especially in areas that are out of compliance with state and federal air quality standards for both PM 10 and PM 2.5 air pollutants, and the health impacts of this fugitive dust • the cost to local governments from DRV law enforcement and related emergency response, and DRV damage to roads, berms and flood control infrastructure • the impacts of DRVs on cultural resources and tribal lands
1101	We are including a map of the Subregion with the above BLM areas circled in red. We are also including photos ofthe

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	degraded BLM Parcels. Poor management by BLM personnel has destroyed some ofthe mostlovely land in Kern County.
1106	The BLM should develop a means to provide maps to the public that illustrate all the roads that currently exist on the ground as well as those in existence on the 1980 Desert Plan maps.
1114	Map Name and Number - Afton Map 1 Route# - Grid Location - Point of Interest - Comment Type - No details on the map. Where are the road names? Where is the campground? Add details to make the map more user friendly
1115	Maps totally inadequate for Afton County. Does not show rail road, major roads, campground etc. Give maps so we can verify validity.
1116	No features on detail map, should be USGS topo map.
1116	On the eastern side of Subregion needles south the map does not exist. Please send me a copy as soon as possible.
1120	Map Name and Number - Sierra Map 2 Route# - SE 993 Grid Location - T22S R37E Sec. 1S, 16 Point of Interest - Comment Type - Site Specific Map error trails, SE993 not SE977
1120	Map Name and Number - Sierra Map 1 Route# - SE 9 Grid Location - T22S R39E Sec. 31 Point of Interest - Comment Type - Site Specific Intersection of SE7 and SE9. Map shows SE9 continuing toward the SE. On the ground the road heading NE is marked SE9.
1120	Map Name and Number - Sierra Maps 2 and 3 Route# - Grid Location - T24R38E Sec. 16 Point of Interest - Comment Type - Site Specific The historic Bonanza trail is shown as an undesignated route. See back page for additional info.
1120	Map 2 - Lower right-hand corner. Hwy 178 - Walker Press Rd. is nowhere near this map, correct it.
1146	I think we should revisit all the trails in the plan. If some trails were left open due to insufficient guidelines; conversely some were closed for the same reason. The present routes are said to be from the 85/87 route survey, which many contend was never ground proofed or completed. I think we should revert back to the original desert plan and consider all routes equally. I personally know of many routes in Searles Valley, Panamint Valley and the Darwin area that have been there for over a hundred years, yet are not on the present WEMO designated route plan.
1146	Assess all roads originally considered in the Desert Plan as amended in the 1980/82 time period. All network roads assessed after were never officially ground proofed or went through the full NEPA process and therefore should not be now closed.
1156	Need better maps.
1163	Highway 395 has the El Paso on the West and Ridgecrest on the East. There are single track routes that come down a hill, cross 395 and go over railroad tracks. This can clearly be seen from Hwy 395 before you get to the Ridgecrest billboard. When you look at the BLM maps, these single tracks do not show up, but we know they are there. Perhaps the Survey done by the BLM Catasdral group should be brought up to the Sub group meeting so that it can be identified on the maps, as well as other routes that cannot have GPS done without violating the "Closed Unless Signed Open" designation which is currently in place.
1249	Value of accurate, available and up-to-date route maps. Local planning efforts

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	can benefit greatly when accurate route maps are established and made readily available to planning groups. Setting conservation priorities for land acquisition andlor protection can be done in a more predictable manner when all of the stakeholders involved know which BLM routes are valid and established, and their exact loctations. Hard copy and digital files of final route maps should be made available to the interested public.
1249	Base route designations in valid conservation science, including the use of existing wildlife linkage design studies to inform route designation. For example, SC Wildlands has performed two linkage design studies (www.scwildlands.org/reports) that map least cost corridors for a set of focal species defined by wildlife experts for the Morongo Basin. These are "A Linkage Design for the San Bernardino-Little San Bernardino Connection" and "A Linkage Design for the Joshua Tree-Twentynine Palms Connection." Other scientifically based studies by the USGS, U5FWS, CA DFG or other agencies that can inform route designation should be included in the development of the route maps.
1256	I am enclosing 2 attachments pertaining to signage and mitigation. The supplemental maps issued in Aug. omit many open routes and notably the routes the Lost Coyotes M/C has used on 7 sanctioned dual sport events since 2001. This shows me how inaccurate the maps are. The subregions that have omitted our sanctioned dual sport routes are - Ridgecrest,El Paso's,- Red Mtn.,- Fremont,- Black Mtn.,- Kramer. I can supply sanction numbers and the routes will be on file in Ridgecrest and Barstow F.O. ·s.
1256	New maps should show single track trails in a different color than 2 track.
1256	Map is poor quality, Cooper City Route numbers change.
1284	The BLM needs to apply Global Information System (GIS) technology to overlay critical habitat, private lands, ACECs, Desert Wildlife Management Areas (DWMA)s, and the Morongo Basin Wildlife Linkage Design4 (see attached) to compare with proposed routes.
1284	In order to develop a travel management policy with a solid foundation, the BLM must include the latest scientific information and studies on the following: • impact of ORVs on critical habitat, ACECs and habitat for threatened, endangered, rare and BLM sensitive species • the number of accidents involving ORVs and an accounting of citations issued by all relevant law enforcement agencies on a yearly basis since 1980 • the extent of ORV damage to soils, wildlife habitat and plant communities within theWEMO • the capacity of the BLM to provide law enforcement for the WEMO area • the impacts of ORVs on washes, unusual plant assemblages, and riparian resources • the impacts of ORVs on air quality within the WEMO area, especially in areas that are out of compliance with state and federal air quality standards for both PM 10 and PM 2.5 air pollutants, and the health impacts of this fugitive dust • the cost to local governments from ORV law enforcement and related emergency response, and ORV damage to roads, berms and flood control infrastructure • the impacts ofORVs on cultural resources and tribal lands • the potential for the spread of non-native invasive plant species
1288	Need to add three riparian areas to the database that may have OHV impacts: Coxey Creek Riparian Zone (S. of Castro's private land), Lion Canyon Riparian Zone (near Luna Mtn), and Warm Springs.
1290	I'm working with a set of II x 17 maps that were handouts at the Jan 26, 2011 scoping meeting discussing Searles and Darwin WEMO routes. They are labeled North Searles, South Searles, Sierra Detail Maps 1, 2 and 3, and, Darwin. These maps are essentially unusable, and The BLM cannot expect the quality of comments it needs from them. Please distribute accurate, user-friendly maps in time for the public to use them to make the comments the BLM has requested. Problems with these maps: Grid: The maps have no Lat/Long or UTM grid lines, making precise field or desk

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	inspection impossible. Border tick marks are also missing, so I can't draw my own grid lines on the maps. Meaningful and accurate comments are near impossible unless a commenter is intimately familiar with the ground. The maps do have PLSStownship, range and sections, and theoretically a moderately accurate position could be determined by comparing the maps with those USGS maps that also have PLSS. But that is asking more from your prospective commenters than you could expect in order to get good comments. Place Names: Very few place names are included, making it even more difficult to judge route locations. Contour Lines: Omission of contour lines also makes field inspection, or even desk inspection, difficult. Routes in Wilderness: Both open and closed routes are shown in designated wilderness. This is confusing. Is BLM suggesting open and closed routes in Wilderness could be designated for motorized use? Illegible Font: The tiny font for all except the legend requires either good close up vision or a magnifying glass. The maps are undated: There is no way, now or in the future, to tell how fresh they are. Please put publication dates on any new versions. Computer Printed: The handout maps can be downloaded. But when printed they are even less legible than the meeting handouts. This makes it very difficult to use home computers to make comments. It will severely restrict the quantity and quality of comments. Downloaded Pop-up: Briefly resting the cursor on a downloaded map shows a text pop-up with very confusing language, something about not being 508 compliant with no explanation of'508', and essentially saying the maps are no good, can't be relied on, and that the BLM takes no responsibility for them. These maps that are intended to elicit well considered comments, are an obstacle. Personally, I am familiar with routes on the North Searles map. Only with a lot of work researching and comparing the map lines with previous BLM maps and with topo maps would I be able to provide meaningful comment. The following suggestions would make the maps even more useful to commenters. Colors: BLM land is a light yellow, private is white. Complex boundaries are very hard to see. Adjacent Land: Include wilderness, open routes, and other land management status in adjacent FS and NPS managed lands. This is necessary to detennine connectivity with the adjacent management areas. The borders are often not obvious on the ground, and routes crossing the borders should be consistent. This is very difficult to determine without knowing the land and route states of the adjacent areas. The BLM, exercising good faith, must consider the route maps as a tool for use by the public that has been asked to participate in the process. As it stands, the maps are a very poor tool. The BLM cannot expect the quality comments it wants and needs in return.
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1001	In addition, it is important that the cumulative effects of past government actions, and proposed or anticipated government action, including but not limited to proposed or anticipated alternative energy projects and military base expansions, whatever they may be, have deprived or will deprive rockhounds of former collecting locations.
1001	Replacement of access lost for recreational and all of the varied public use purposes, including Mechanized and Motorized Dependant Recreational Activities, must be considered on a overall view basis of the entire Plan Area with regard to the effects resulting from the past, present and potential future renewable energy facilities and base closures as well as any and all types of conservation efforts applied to the Plan Area that have or will affect the public's use.
1001	To consider only such loses on a project-specific basis denies all parties involved the opportunity to evaluate the cumulative losses for the Plan Area as is required by NEPA and our expectations. The application of NEPA with respect to analyzing cumulative effects is clear, it can and should apply to entire regions such as the WEMO Plan Area.
1001	The BLM must additionally consider other upcoming changes that will potentially affect access and recreational opportunities such as the proposed Marine Corps 29 Palms Air Ground Combat Center expansion which also has the potential to remove a large amount of land from public use.
1001	The BLM must fully examine recreation, including rockhounding, access, and the relationship between them. A dispersed motorized off-highway route network exists throughout the planning area and is utilized to pursue and support various activities including rockhounding. For this reason, data and specific information about the extensive

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	recreational uses within the West Mojave planning area is essential to developing the route plan. The potential impact of the plan on recreation broadly, and rockhounding specifically, must be a consideration when developing the West Mojave route plan.
1002	Equally significant, BLM's cumulative effects analysis in the 2003-0S route designations did not adequately address impacts associated with previous route proliferation; the effects of not fully implementing vehicle use management actions in the past; or the likelihood that planned BLM vehicle management action might not occur in a timely fashion. Nor did this analysis ensure that environmental factors were weighted equally when compared to other factors in BLM's decision-making process.
1002	An estimate of the acreage of land that will be subjected to low, moderate and high vehicle use disturbance in relation to differing erosion rates should be analyzed in any route network alternative analyzed in associated NEPA documents. Similarly, the acreage of lands that will be subjected to visual resource impact due to their location on certain topography, and/or the likelihood of erosion impacts over time, should be evaluated.
1002	It is critical that special status plant and animal species are proactively addressed in the route designation process using a biological screening process (BLM 2000). This analysis should be conducted by qualified biological personnel having knowledge of the respective species, the potential for vehicle impacts to individuals of the respective species/suitable habitat, and applying site-specific analysis where warranted.
1002	Per the Fort Irwin Military Land Withdrawal Act (U.S. Congress 2001), route designation throughout the WEMO planning area is also to be considered in light of all resource impacts connected with the approved expansion of the U.S. Army's National Training Center at Fort Irwin. Therefore, all planned WEMO route designation measures within tortoise critical habitat should be prioritized accordingly and undertaken in a timely manner.
100S	Our opinion runs counter to that assumption, and we encourage the BLM to use on site analysis using the best available science to determine probable impacts.
100S	As OHV use is also an important economic contributor to small, local communities, any change in direction from current use must be analyzed for economic impacts to those communities.
100S	Because Johnson Valley lies within the WEMO Planning Area, the proposed plan amendment must account for the impacts associated with the proposed USMC base expansion. As a result, the plan amendment must operate on two parallel but different assumptions. First, it should assume that the proposed base expansion into Johnson Valley will not be approved or implemented. Routes in existence today should be considered for inclusion in the final route network, regardless of whether these routes are located within the proposed USMC base expansion area. Second, the plan amendment should assume that the base expansion into Johnson Valley will take place. Therefore, the proposed route network must be designed to maximize access to those places within Johnson Valley left untouched by the base expansion. This would involve, among other things, possible development of new routes to function as access corridors between open areas and those venues within Johnson Valley which, while not part of the expanded Marine Base, will nevertheless be difficult to reach via the existing network of trails and staging zones.
1006	As to air quality, it is completely irrational for BLM to attempt to segregate the analysis of the impact of a route designation from the cumulative air quality analysis for all activities in the WEMO Plan, including open areas.
1006	The USGS has also produced a desert tortoise habitat mode13, and that modeling effort should be included in the analysis in support of desperately needed recovery opportunities for the declining desert tortoise.
1006	In addition, BLM must take into account new information regarding climate change and other impacts to resources in the W~st Mojave planning area in its new NEPA review.
1006	The solar PEIS is slated to be fmalized shortly. Because of the potentially significant impacts to ecological processes and biological resources from the proposed preferred alternative in the supplemental PEIS, additional route restrictions in the west Mojave may be needed in order to assure persistence of these ecological processes and biological resources. The BLM'sNEP A analysis in the EIS must clearly identify how it will address the increase in industrial scale development on lands in the West Mojave that would be authorized under the final PEIS designations.
1006	Additionally the project area is also located within the boundaries of the DRECP, which is also slated to be final by March 2013. In order to accommodate renewable energy development in the west Mojave desert and elsewhere in the CDCA, additional conservation

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	areas will need to be incorporated on public lands in order the meet the requirements of section 10 of the ESA (the Habitat Conservation Plan) as well as California's Natural Communities Conservation Plan standards. The BLM's NEP A analysis for the West Mojave plan amendment in an EIS will need to clarify how this process will incorporate the conservation goals of the DRECP effort into this planning process as well.
1007	However, with solar project development and a proposal to expand 29 Palms Marine Base, areas currently legal for OHV would be again ousted and removed from legal areas. Cumulatively the impact on the recreational population that is currently using the legal areas may be adversely impacted if the West Mojave Plan is further expanded to conserve habitat. A sensible balance needs to be achieved that allows regulated recreation that also protects sensitive environmental areas.
1009	The BLM should conduct a scientific study to determine current and foreseeable trends in public land use and how those trends affect the public at large who rely on motorized and mechanical means of transportation to visit their public lands. This study should include an analysis of all uses of Southern California desert lands and include the effects of renewable energy plans. This study should also include analysis of the following subjects: a) Will the preferred alternative achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities? b) Will "individual choice" be sacrificed to that which dominant environmental groups in our nation are establishing as the norm for choices in contact with, and recreation on, our public lands?
101S	When evaluating a road certain things must be considered. Some of these are: Is it a through road? Is it a road which can be connected to another to relieve pressure on sensitive species? Is it a road which dead ends at a space which has room for parking and is a trail head for hiking or gem and mineral collecting or some other type of activity? How long has the road been in existence? Does the road have a history? Is the road in a sensitive area? Has there been significant impact to the sensitive whatever? Is the road a dead end which is or could be used to access an area for family camping, picnicking, painting, photography or quiet contemplation? Is the road needed to evacuate people in case of fire or flood? Is the road a dead end at a special geologic or some other feature? Is the road necessary to provide access to guzzlers, tanks, springs, seeps or tinajas? Is the road a cherry stem? And so on.
1017	When evaluating a road certain things must be considered. Some of these are: Is it a through road? Is it a road which can be connected to another to relieve pressure on sensitive species? Is it a loop trail such as: Hidden Valley to Mesquite Spring and Wilhelm Wash to Baxter Wash in Afton Canyon ACEC. Is it a road which dead ends at a space which has room for parking and is a trail head for hiking or gem and mineral collecting or some other type of activity? How long has the road been in existence? Does the road have a history? Is the road in a sensitive area? Has there been significant impact to the sensitive whatever or so little impact as to be insignificant? Is the road a dead end which is or could be used to access an area for family camping, picnicking, painting, photography or quiet contemplation? Is the road needed to evacuate people in case of fire or flood? Is the road a dead end at a special geologic or some other feature? Is the road necessary to provide access to guzzlers, tanks wells, springs, seeps or tinajas? Is the road a cherry stem? And so on.
1017	The BLM EIS must also consider other forthcoming changes which will or have the potential to affect access. For example, the planned expansion of the Marine Corps Air Ground Combat Center Twenty Nine Palms, California will certainly remove a large amount of land from public use with all sorts of "take" of various species.
1017	There must be adequate discussion/consideration in the BLM EIS, of lost recreation opportunities and how they might be mitigated. As whatever vehicle one uses, becomes an OHV when it hits that dirt road, (usually historic and usually user maintained.) replacement of access lost for OHV use, should be considered as part of the analysis of project specific

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	impacts.
1022	The Proposed Action must adequately evaluate and mitigate the cumulative losses of land for recreational opportunities, including but not limited to cumulative closures or limitations on desert lands managed by BLM and on forest lands managed by the U.S. Forest Service. Actions that must be evaluated include, but are not limited to, proposed military base expansion, proposed renewable energy development sites, existing and proposed wilderness areas, existing and proposed critical habitat designations, and other existing and proposed land use designations that encompass restrictions to access, including but not limited to National Landscape Conservation System, National Conservation Areas, National Park, and Areas of Critical Environmental Concern.
1022	In reviewing the Proposed Action, CA4WDC finds it deficient in its acknowledgement of the importance of recreation to the West Mojave (WEMO) region. Specifically, the proposed Proposed Action fails to acknowledge that various recreational activities exist in the proposed project region.
1022	CA4WDC believes that the loss of access to the West Mojave (WEMO) region for recreation opportunity is a direct loss. There are also indirect impacts that would result should this Proposed Action be approved and implemented causing displacement of recreational activities. Those cost include, but are not limited to: (1) the increased enforcement required at other sites when displaced recreational users seek out other areas that may be poorly identified as wildlife preserves or other resource-rich areas; (2) the loss of biological resources or habitat at other sites that displaced recreational users may utilize ; (3) the loss of nature education, (4) the loss of outdoor recreation opportunities, (5) the loss of outdoor access and experiences for children in the community; (6) the loss of familial traditions, custom, and culture of recreational and nature-oriented activities in the region; and (7) the loss of the region's history and traditions, specifically with respect to mining and recreational activities.
1022	The aspects of social, economic, and public health and safety are very important and must be given adequate discussion and analysis. The Proposed Action must contain complete disclosure and analysis of the cumulative loss of recreational access, impacts to public health and safety, and economic impacts of the project on the local and regional communities.
1022	CA4WDC believes that cumulative effects of other planning efforts within and adjacent to the proposed planning area be determined and analyzed as part of determining motorized vehicle use issues and concerns within each sub-regional area of the WEMO plan area. The cumulative effects include but are not limited to planning efforts such as the proposed expansion of Twentynine Palms Marine Corps Base and the Desert Renewable Energy Conservation Plan.
1023	In reviewing the proposed environmental assessment (EA), it is deficient in its acknowledgement of the importance of recreation to the West Mojave (WEMO) region. Specifically, the proposed Action fails to acknowledge that various recreational activities exist in the proposed project region.
1025	In addition, BLM must consider other ongoing planning efforts that will amend the existing WEMO plan amendment to the CDCA such as the Solar PEIS, and the DRECP. For example, soil structure and air quality are both impacted by open areas, routes, grazing, and industrial scale renewable energy development
1025	Impacts to soils and air quality resources from route designation and other activities must be considered together in order to adequately evaluate the overarching impacts to soils and air quality and ensure that the resulting planning adequately protects these resources and others.
1025	Additionally, all routes (both legal and illegal user created routes) should be included in the analysis. Every route segment should be evaluated for environmental impacts to the surrounding ecosystem and if these impacts are determined to negatively affect species and habitats, soils, water resources, water and air quality, they should be closed. If existing routes cause a significant environmental impact, they should be considered for redesign or closure to minimize the environmental impacts.
1025	The route designation process should be a fully transparent public process, driven by science. Issues to be evaluated in route designation process for each route segment and disclosed in the EIS should include but are not limited to: · Analysis of impacts to BLM sensitive, rare, threatened and endangered species and their habitats including but not limited to desert tortoise, Mohave ground squirrel, Lane

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	Mountain milk-vetch, Mojave fringe-toed lizards; · Analysis of impacts to plant communities and Unusual Plant Assemblages (UPAs); · Analysis of impacts to riparian, wetland, springs, seeps and other water dependent resources; · Analysis of impacts to essential ecological processes (for example dunes systems and sand transport corridors); · Analysis of impacts to essential wildlife connectivity corridors; · Analysis of the impact of the release of vehicular pollutants, including oil and gas, ozone precursors, nitrogen oxides, particulate matter, carbon dioxide, carbon monoxide, and heavy metals (such as lead, zinc and cadmium), which may have serious additive and cumulative effects on the surround environment; · Analysis of noise pollution from vehicles that impact wildlife populations; · Analysis of routes as dispersal corridors for invasive plant species; · Analysis of ORV as dispersal mechanisms for invasive plant species; Analysis of direct impacts from roads on wildlife including habitat loss, mortality due to collision, habitat fragmentation and edge-to-area ratio of habitat; · Analysis of impacts to the integrity of adjacent soil crusts and desert pavements; · Analysis of impacts from routes in destabilized soils that result in additional PM10 emissions. · Analysis based on the types of route (ORV trails [motorcycle, quad, jeep etc.], unimproved local road [1-lane dirt], improved local road [1 or 2 lane dirt or gravel] and collector road [2 lane dirt or gravel]; · Analysis of the ecological effects of vehicular routes at three spatial scales: (1) direct effects within route corridors (2) indirect effects distributed along gradients radiating outward from route corridors; and (3) dispersed landscape effects resulting from the cumulative effects of multiple routes across landscapes; · Analysis of the ecological effects on soils, including changes in hydrological processes that promote soil erosion such as rilling and gullying, and increased impermeability of soils due to compaction; · Analysis of increased NOx emission and nitrogen deposition effects on plants (native and non-native). · Analysis of fire risk from the routes based on the incompatibility of desert landscapes and fire; · Analysis of cumulative impacts from grazing and routes on species, soils, water resources, air quality and others should be undertaken both at the WEMO regional scale and for sub-regions.
1025	The California Desert Conservation Area lands are easily damaged and slow to heal. Therefore it is prudent that the BLM carefully evaluate the designation of routes on these fragile lands and put in place a system that minimizes damage to them.
1026	The BLM must consider the cumulative effects of the alternative route proposals it develops with other activities that it authorizes. Since 2006, when the WMP ROD was originally signed, the two most extensive area-wide activities that the BLM has authorized are livestock grazing and the use of public lands it manages for power plant projects including solar and wind energy power plant projects.
1026	Quantify the amounts of route proposed within the boundaries of the proposed National Monument and analyze the impacts.
1026	Because unauthorized vehicle activity is frequently found on both sides of fences, quantify the number of fences crossed by each route. For each designated route provide an estimate of the number of other unauthorized routes that lead off that route to provide information required to ensure that the proposed system does indeed minimize conflicts between off-road vehicle use and other existing uses.
1026	In the cumulative effects analysis, consider the cumulative impacts of each proposed action with all planned, proposed and reasonably foreseeable Solar and Wind energy projects and energy transmission projects on all listed and sensitive species, soil types and Unusual Plant Assemblages.
1026	Because of the extent of the current route network, and the overwhelming direct, indirect, and cumulative effects of motorized vehicle activity and motorized vehicle access on sensitive resources, the action will have significant cumulative effects with other land use activities authorized by the BLM including livestock grazing, mining, and energy development.1
1026	It is unclear what the BLM intends by requesting "Identification of those portions of the

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	WEMO plan that should be revised to reflect current management policy regarding motorized vehicle access". Because of the overwhelming direct, indirect, and cumulative effects of motorized vehicle activity and motorized vehicle access, the BLM must revise all portions of the WEMO plan relating to authorized uses and land use designations that have significant cumulative effects including livestock grazing, mining, and energy development if it is to comply with NEPA.
1026	In order to assure that proposed route networks are compatible with recovery, the BLM should consult with the USFWS and utilize the Desert Tortoise Recovery Office's (DTRO) Spatial Decision Support System to model each alternatives proposed route's net impacts to desert tortoise.
1028	Adequate recreational opportunity for all visitors is the supreme issue that must be addressed by this action.
1028	We request that the BLM provide an adequate and fair evaluation of: 1. The needs of motorized recreationists and the cumulative impacts of motorized closures, 2. All existing routes including those meeting National OHV Rule guidelines and currently closed routes, 3. The current imbalance of non-motorized to motorized trails, and 4. At least one pro-recreation alternative in the analysis. S. Under the existing condition, too much of the West Mojave area is set-aside for segregated exclusive non-motorized use for 1% of the visitors to the area. We do not agree with all of the effort that the agency is going through to segregate users. Multiple-use lands are public places. Segregation in public places has not been acceptable since the Civil Rights Act of 1964 (http://www.ourdocuments.gov/doc.php?flash=true&doc=97&page=transcript). In order to reasonably meet the requirements of integration a reasonable management goal for 99% of the forest would be for shared multiple-use that would produce a forest-wide 50/50 sharing and equal opportunity of non-motorized/motorized trail opportunities.
1028	The Environmental Assessments for 8 Travel Management Areas within the West Mojave Area must include adequate evaluation of cumulative effects so that motorized recreation will not be removed from our public lands. An adequate evaluation of cumulative effects would include all past, current, and reasonably foreseeable actions that have or will produce motorized closures in the State. The environmental analysis must adequately address the human environmental including issues, needs, alternatives, and impacts on the public associated with the reduction or lack of adequate motorized recreation. An adequate analysis would include evaluation of significant social, cultural, historical use, current use, future needs, economic impact, and quality of the human environment issues from the perspective of motorized recreationists.
1028	An adequate site-specific analysis should include monitoring and quantification of existing motorized use versus non-motorized use, types of motorized use and visitors, and effects of motorized closures on the quality of the human environment.
1028	The current emphasis on climate change is being given far too much weight. This focus is not balanced with objective science and the needs of the public. The existence of climate change and any positive or negative impacts are simply not known at this time.
1028	The BLN must give a hard look at the impact of motorized closures on the human environment. Per CEQ guidance, NEPA documents are to be driven by significant issues. Motorized closures and the lack of adequate motorized opportunities have a significant impact on motorized recreationists.
1028	the evaluation must include a meaningful evaluation of the cumulative effects of all current and reasonably foreseeable motorized closures on motorized recreationists including decisions and proposals in all surrounding areas and reasonably foreseeable actions as listed in the National OHV Policy.
1028	The site specific analysis of each road or trail to be closed must address or identify where the public would go to replace the motorized resource proposed for closure. In other words, the analysis must adequately evaluate the site specific value of a road or trail proposed for closure to motorized recreationists. It must also quantify the significant negative cumulative impact experienced when motorized recreationists could not find a trail or road with a similar experience in the area. The quality of our experience has been significantly reduced. It must also quantify the significant cumulative impact that the closure of a system of road and trails would have collectively when enough routes are closed to eliminate a good motorized day outing. An incomplete analysis is not acceptable under NEPA requirements.

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1028	Site-specific analysis should be provided for every road and trail so that the benefits of keeping each motorized travelway is adequately addressed and accounted for in the decision. Site-specific questions will need to be discussed during the process. We request that the mapping be sufficient to allow site-specific analysis.
1034	Second, route designation decisions must reflect the potential cumulative impacts to desert tortoises from grazing, the siting of renewable energy projects, and impacts from motorized vehicles.
1037	The cumulative effects of other planning efforts within and adjacent to the proposed planning area be determined and analyzed as part of determining motorized vehicle use issues and concerns.
1041	Speaking as an equestrian, there are more than esthetic, ie noise/dust issues concerning shared trails with motorized or even mountain cyclists~~horses are prone to "spook" when wheeled vehicles suddenly loom in front of them, with or without noisy motors.
1042	the BLM must take into consideration all of the factors that affect the Juniper Sub Region. These factors may be similar to those that affect other regions, but they may represent a very different set of "combined" or "cumulative" issues.
1046	1. Routes should be placed so as not to harass wildlife and avoid disturbing their habitat. Therefore, all the springs and seeps and blue line streams must be included on the maps and in the legend. 2. Mines, especially active claims must be included on the maps. Mine shafts should be included. 3. Wind energy projects must be included on the maps. It is our understanding that about 8 wind testing towers have been approved for the region. Where will they be located? 4. The Round Mountain Cattle Allotment boundaries must be included on the map 5. The Juniper Flats ACEC must be on the map. It has a separate management plan with identified routes. 6. There is an aviary in the area. Where is it? 7. What other rights of way are approved? Powerline for SCE? 8. Where are the kiosks located? 9. Where are the guzzlers? People use the area to hunt upland game birds. 10. Where are the residences and ranches that are surrounded by BLM lands and routes or adjacent to those features?
1046	According to the original 1980 Desert Plan, SOIL, WATER, and AIR are the three most essential resource components of the California Desert Conservation Area. Impacts from motorized travel on roads and trails on the SOILS, WATER and AIR in the desert were to be monitored and evaluated. The results of those studies must be carefully evaluated in this Travel Management Plan/NEPA process including discussions on the particular impacts on soils of the proposed Plan. The scope and extent of those impacts must be revealed to the public.
1046	BLM has the responsibility of evaluating the cumulative impacts of the proposed plan.
1057	Proposed Route Network Should Anticipate Possible Expansion of USMC Base Into Johnson Valley
1057	the plan amendment must operate on two parallel but different assumptions. First, it should assume that the proposed base expansion into Johnson Valley will not be approved or implemented. Routes in existence today should be considered for inclusion in the final route network, regardless of whether these routes are located within the proposed USMC base expansion area. Second, the plan amendment should assume that the base expansion into Johnson Valley will take place. Therefore, the proposed route network must be designed to maximize access to those places within Johnson Valley left untouched by the base expansion.
1060	Recreation - the potential impacts to recreation should be evaluated. Motorized access is essential to most recreational activities within the proposed area. In our County, these impacts should be considered in light of past and continuing efforts to reduce motorized access and the associated recreational opportunities available to recreationalists. Recreationalists derive social value from recreational uses on public lands. Generations of people have enjoyed the recreation activities within the proposed area, any further limiting ofthose opportunities should be deeply considered. Recreational access is fundamentally important to the interaction ofpeople with their environment. Consideration should be given to the social value impact the proposed plan will have on the recreational users.
1060	Socioeconomics - the potential economic impacts in Inyo County should be considered. Economic development is limited in Inyo County due to the public land ownership panern. While the County is continuously striving to widen the economic base and decrease our dependence on tourism, we are still dependent on the tourism industry for economic success. Recreational tourism brings non-local spending to our community, in the form of recreational spending at OUf local firms that cater to the recreationalists. Recreational spending induces additional economic activity in our area. Recreational visitor spending and the additional economic activity should be considered, especially in our economy that is so dependent on the tourism industry.
1060	Resources - the potential impacts to resource access should be considered. Protection of both current and future of

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	mineral resources extraction is important to the County's economy_ Further limiting access to mineral resources should be avoided. Maintenance of wildlife enhancement features, such as guzzlers, is vital to the survival of several species in the arid climate. Access to such wildlife enhancements should remain open to motorized travel for future maintenance. Consideration should be give to accessing wildlife enhancement features for maintenance.
1060	Land Use and Planning - the Environmental Document and Proposed Plan Amendment should address land use and planning issues between the BLM and the County's planning policies and land use procedures.' Significant consideration should be given to the County's planning policies and land use procedures.
1076	The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases ofthe project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, butare not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.
1076	In addition to analyzing regional air quality impacts the SCAQMD recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document.
1076	In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment.
1086	At some point, you are going to have to realize the Billions of dollars of economic impact that you have on our economy by instituting all these restrictions. People spend Billions (that's Billions, with a "B") on motorhomes, trailers, helmets, gloves, boots. motorcycles, quads, gas cans, water cans, goggles, chest protectors, and so much more EVERY YEAR. If you continually remove our riding areas and leave us no place to ride, you will also lose the tax income from all of these purchases.
1087	When evaluating a road certain things must be considered. Some of these are: Is it a through road? Is it a road, which can be connected to another to relieve pressure on sensitive species? Is it a road which dead ends at a space, which has room for parking and is it a trailhead for some other type of activity? How long has the road been in existence? Does the road have a history? Is the road in a sensitive area and has it had any impact to the sensitive issue? Is the road a dead end, which is or could be used to access an area for family camping, picnicking, painting, photography or quiet contemplation? Is the road needed to evacuate people in case of fire or flood? Is the road a dead end at a special geologic or some other feature? Is the road necessary to provide access to guzzlers, tanks, springs, seeps or tinajas? Is the road a legal cherry stem? And so on.
1089	there should be a competition cooridoor studied between Johnson Valley and Stoddard open OHV areas These will be necessary if we lose Johnson Valley to the military takeover
1100	The footprint created by future projects in the CDCA will further fragment the existing road and trail system by severing existing routes of travel thus excluding the public from the areas within project boundaries and the lands near by. The EIS must look at and the final document must amend the Vehicle Access Element to provide that each future project shall provide environmental analysis for however many work-arounds as are necessary to reconnect the severed access.
1100	When evaluating a road certain things must be considered. Some of these are: Is it a through road? Is it a road which can be connected to another to relieve pressure on sensitive species? Is it a loop trail such as: Hidden Valley to Mesquite Spring and Wilhelm Wash to Baxter Wash in Afton Canyon ACEC. Is it a road which dead ends at a space which has room for parking and is a trail head for hiking or gem and mineral collecting or some other type of activity? How long has the road been in existence? Does the road have a history? Is the road in a sensitive area? Has there been significant impact to the sensitive whatever or so little impact as to be

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	insignificant? Is the road a dead end which is or could be used to access an area for family camping, picnicking, painting, photography or quiet contemplation? Is the road needed to evacuate people in case of fire or flood? Is the road a dead end at a special geologic or some other feature? Is the road necessary to provide access to guzzlers, tanks wells, springs, seeps or tinajas? Is the road a cherry stem? And so on.
1100	The RACC expects to see the Raven at least mentioned as a predator taking significant young and eggs of everything in the desert and when they can larger critters. We expect to see a control program as part of the process. It is wrong to ask stakeholders to cut back their access and activities so the Raven can continue to prey uncontrolled upon desert critters.
1100	The BLM EIS must also consider other forthcoming changes which will or have the potential to affect access. For example, the planned expansion of the Marine Corps Air Ground Combat Center Twenty Nine Palms, California will certainly remove a large amount of land from public use with all sorts of "take" of various species.
1134	There is no clear understanding that adding more Real Estate will bring back the tortoise. There has not been a scientific study to say what constitutes recovery? Where, when and how? Again, expand more closed areas is the only solution to all I can see in the documents presented
1190	Trail closures have had a negative financial impact that can no longer be ignored
1249	Consider adjacent land uses when designating routes, and anticipate possible land use conflicts. Current or projected land uses of adjacent parcels, including zoning, should be considered when establishing routes, to avoid creating conflicts due to incompatible uses or impacts on resources of concern. Access to route areas should also be considered in such a manner to avoid potential conflicts with local land uses or natural resources in adjacent private or public lands, including BLM lands.
1287	When evaluating a route certain things must be considered. Some of these include, but are not limited to, the following: o Is it a through route? o Is it a route which can be connected to another to prevent loss of access to rockhounding destinations? o Is it a route which dead ends at a space which has room for parking and is a trail head for activities such as rockhounding (i.e. a "cherry stem" or a "spur road")? o How long has the route been in existence? Does the route have a history? o Is the route in a sensitive area? Has there been significant impact to the sensitive species or habitat, or so little impact as to be insignificant? o Is the route a dead end which is or could be used to access an area for rockhounding, camping or other activities? o Is the route needed to evacuate people in case of fire or flood? o Is the route a dead end at a special geologic or some other feature? o Is the route a cherry stem? o Is the route a dry wash that has been historically used as a "cherry stem" or a "spur road" providing access to a collecting site or other important recreational destination?
1287	We expect to see ravens, as a predator, taking significant young and eggs of endangered and threatened native species, and attacking vulnerable adult members of protected species such as desert tortoises, mentioned at least once in the environmental impact statement/report. We expect to see a control program as part of the process. It is wrong to ask rockhounds and other stakeholders to cut back their access and activities so the Raven can continue to prey uncontrolled upon desert species.
1287	The BLM EIR/EIS must also consider all past, current and proposed or anticipated changes which will or have great cumulative impacts to rockhounding and other recreational access. For example, the many alternative energy projects, wilderness and conservation areas, and base expansions, all have had and will continue to result in a taking of public land and access thereto for rockhounding and other recreational activities
Mitigation and Minimization	
1001	No practical mitigation is available for loss of access to such areas, therefore we request that such locations be excluded

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	from closure or restriction and that motorized access, including spur roads and "cherry stems" serving those locations, be maintained.
1002	The purpose of route designation is not the formal recognition of illegally-created routes or the expansion of motorized use opportunity. The tenets of FLPMA must be recognized and undue or unnecessary degradation of public lands, avoided. Route designation is not intended to simply facilitate vehicle use "connectivity," nor is it merely a paperwork exercise. Networks of varying extent should be evaluated in the associated NEPA analysis, but the governing land use plan guidance and minimization criteria specified in 43 CFR §8342 must be followed in all considered alternatives. Routes designated as open must not unduly impair our natural or cultural resources, air/water quality, scenic values, non-motorized uses of public lands or adjacent/interspersed private lands.
1002	The cumulative number of routes in high relief topography should also be minimized.
1002	A minimal vehicle use network, as opposed to an extensive network, would lend itself to a greater degree of management and control, particularly on public lands in and adjacent to special areas.
1005	If it is determined that there is a loss of recreational opportunities, those loss of those particular recreational opportunities should be mitigated within other designated areas. If one subregion loses mileage of single-track route, than another subregion should designated additional mileage as mitigation.
1006	In addition, where redundant routes exist, as in many parts of the West Mojave planning area, the BLM should identify and evaluate the minimum route system that would designate only the least damaging routes and close all others as part of a second low density/minimum route alternative.
1017	No practical mitigation is available for loss of access to such areas and the SPCW requests that such locations be excluded from closure or restriction and that motorized access be maintained.
1017	All roads must be up for consideration in the road designation process so as to be able to demonstrate true "minimization" which has already occurred in the California Desert Conservation Area.
1027	If it is determined that there is a loss of recreational opportunities, those loss of those particular recreational opportunities should be mitigated within other designated areas. If one subregion loses mileage of single-track route, than another subregion should designated additional mileage as mitigation.
1028	If the loss of motorized routes cannot be mitigated within the project area, then a Motorized Access and Recreation Mitigation Bank must be established. This mitigation bank would keep an overall accounting of the miles and acres of motorized access and recreational opportunities closed and the new motorized access and recreational opportunities created to offset that loss.
1057	any action which leads to a reduction of OHV routes or OHV use areas be treated as a significant impact that must be mitigated.
1089	There should be opportunity replaced and/or mitigated due to losses from renewable energy projects, Military, and clear Creek closures
1100	Numerous unique natural features exist on public lands within the WEMO planning area including springs, seeps and tinajas, that cannot be recreated or relocated. While access roads can be re-routed; natural area features cannot. There are also certain corridors utilized by wildlife that are only found in specific locations within the plan area. No practical mitigation is available for loss of access to such areas and the RACC requests that such locations be excluded from closure or restriction and that motorized access be maintained.
1100	All roads must be up for consideration in the road designation process so as to be able to demonstrate true "minimization" which has already occurred in the California Desert Conservation Area. Routes and route segments that are identified for analysis and designation should include: all routes originally within the 2004 designation pool; all routes identified in subsequent BLM surveys; routes identified by the public; routes considered by previous designation efforts, i.e. Jawbone-Butterbredt ACEC, Rand Mountains Management Area, Ord Mountains.
1100	Mitigation should not become the responsibility of other multi-use stakeholders or occur at the expense of other uses. Public access should not be curtailed or limited to accommodate the possible loss of species resulting from other activities.
1287	We ask the BLM to keep in mind the fact that natural features exist on public lands within the

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	WEMO planning areas are irreplaceable. While roads and campsites can be relocated, mineralogical and fossil deposits occur where nature has very uniquely placed them and cannot be recreated or relocated. Most rock, gem, mineral and fossils found at these locations have characteristics that are unique to that location and are not found elsewhere. No practical mitigation is available for loss of access to such areas, therefore we request that access to such locations be excluded from closure or restriction and that motorized and mechanized access, including spur roads serving those locations, be maintained. Rock, gem, mineral and fossil collection typically requires the use of hand tools and equipment that cannot be packed in or carried long distances, especially by the many elderly or handicapped rockhounds, and are therefore motorized and mechanized dependent.
1287	All roads, even those previously closed, must be up for consideration in the road designation process so as to be able to demonstrate true "minimization" which has already occurred in the California Desert Conservation Area.
1287	Mitigation for loss of habitat or species should not become the responsibility of other multi-use stakeholders such as rockhounds or occur at the expense of other uses such as rockhounding. Public access should not be curtailed or limited to accommodate the possible loss of species resulting from other activities.
1287	There must be adequate identification of rockhounding locations and a meaningful consideration of lost rockhounding locations, or access to such areas, and how such loss might be avoided or mitigated.
Implementation and Administrative Actions	
1002	Routes designated as open for vehicle travel per the BLM's WEMO Plan were found infrequently signed on the ground. Inadequate signing was found to be a significant problem where designated open routes intersected closed routes; with no means on the ground to direct vehicle users to the designated open route. The extent of signing and other implementation actions in certain areas (i.e., Rand Mountains, Juniper Flats and Ord Mountain vicinities) was found to far exceed implementation efforts in the remainder of the planning area.
1002	In general, closed routes were found neither signed nor rehabilitated in any manner that would identify these routes as formally closed to vehicle use. In the few instances where previous closed route rehabilitation has been completed, considerable vandalism and continued vehicle use was observed. Recent tire tracks were observed on almost all routes designated as closed, including within special areas. Many designated open routes were also found to direct vehicle users onto private lands where vehicle-related surface disturbance was noted.
1002	Kiosks and bulletin boards displaying BLM maps of designated open routes were seldom found at trailheads. Published BLM route network maps were found not to have been updated. Information relating to the consequences of non-compliance with vehicle use rules on public land was generally not posted. State requirements for vehicle use and county ordinances relevant to vehicle travel on interspersed private land were similarly absent.
1002	Recommendations offered for improving route designation and vehicle network management include: · Evaluation of potential open routes on the ground by a team of interdisciplinary specialists based on CFR application and aerial photo analysis, coupled with an evaluation of staff capability to manage, maintain and enforce the resulting network; · Improved route signing, primary trailhead kiosk installation with large-scale route maps and use rules, closed route rehabilitation and mandatory use education requirements; · Establishment of an effective, systematic vehicle use monitoring plan conducted on a regular basis by BLM staff, with the details/results made readily available to the public; · Development of a threshold which clearly identifies a level of unacceptable impact to public land resources, at which point affected areas or trails will be immediately closed to the type of vehicle causing such effects, until these effects are eliminated and measures have been implemented to prevent future occurrence; and · The adoption of strategies for effective enforcement of vehicle use on public lands and improved collaboration with city/county law enforcement personnel.
1002	Informing the public of ORV and/or off-highway vehicle (OHV) use allowances is critical in the implementation of route designation. Without appropriate information on the ground, the recreating public has no way of knowing what is allowed and what is not. Public outreach in furtherance of vehicle use management is required by the BLM Manual as well as the CDCA Plan, and was identified as a focal mitigation measure in the 2005 WEMO Plan FEIS. The distribution of current and understandable maps, posting of signs and dissemination of various printed information were to be used in

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	identifying designated open routes and to communicate the rules for vehicle use per the 2003-05 WEMO route designation efforts.
1002	BLM and the State of California should also together consider addressing more effective management of "red-sticker" and "green-sticker" licensed vehicle use on checkerboard ownership lands within the WEMO planning area.
1002	Where route proliferation and free play vehicular activities are known to adversely affect tortoise or other listed species' habitat, and/or pose a risk for listed species mortality within critical habitat, active route network management steps need to be taken in route designation processes. Such steps are recommended to include: · Designating a minimal number of thoroughfare access routes as open within designated critical habitat, as well as and DWMAs or ACECs designated for the species; · Installation of kiosks or bulletin boards at major trailheads, depicting the designated open vehicle route network and rules for legal vehicle use, outlining the importance of the affected habitat for tortoise recovery; · Prominently signing both open and closed routes, with removal of closed route signs following "vertical mulching" or other techniques designed to remove the visual appearance of regular vehicle use on the subject closed route; · Scheduling "vertical mulching" and removal of vehicle use indicators on closed routes intersecting open routes on an expedited timeframe; and Monitoring compliance with the designated vehicle use network on an annual basis, using systematic techniques, appropriate data collection, established thresholds for documented non-compliance, and real consequences (i.e., temporary area closure) for non-compliance as identified by the monitoring program.
1002	Interpretive signing and regular, careful monitoring of vehicle use in special areas is also recommended. Visitors should be informed that any actions which result in surface disturbance or destruction within special areas and elsewhere on public lands are illegal, per 43 CFR 8365.1-5. Timely closed route rehabilitation in special areas should be a BLM priority.
1002	Public land visitors should also be alerted about adjacent or intermingled private lands, as well as relevant state/county laws and ordinances. Information on county/state requirements should be provided at strategically located trailheads, particularly in public land areas bordering the urban interface. Close coordination with local communities is also recommended to ensure direct access to proximal open play areas and known patterns of use are considered, along with private land concerns, during initial route designation planning efforts. State peace officer delegation for BLM Rangers should also be secured to improve law enforcement efficiency.
1002	The implementation phase of route designation includes the posting of signs and maps, provision of information and education, route maintenance and closed route reclamation, law enforcement and monitoring (BLM 2009). Specific actions include: · Publishing and disseminating motor vehicle use maps; · Signing; Educating visitors on travel management regulations and designations; · Enforcing travel management restrictions; · Maintaining designated roads and trails; · Decommissioning/rehabilitating unauthorized roads and trails; · Establishing cooperative and volunteer agreements, fee programs, or efforts to ensure sustainable funding for vehicle use management; and · Monitoring impacts.
1002	Sign vandalism was observed to be common, with little difference in the rate of vandalism between closed and open route signs. While Limited Use (i.e., "vehicle travel limited to routes signed as open") signs were found occasionally posted at trailheads, there was often a lack of information at a distance from these trailheads that clearly informed the visiting public that routes were closed unless signed open, in addition to no open route signs.
1002	The few routes designated as limited to specific vehicle access (rather than open or closed) evaluated in this review (e.g. F2088, F2032) were found unsigned. No information was found posted relating to use limitations. No gates or barriers had been installed. No difference between these routes and open/closed routes in the surrounding area could be ascertained.
1002	Failure to adequately sign a trailhead and associated routes creates very difficult enforcement situations. Vehicle use signs should be customized for site-specific application. Route use restrictions at trailheads should be clearly identified, along with the reasons for the restriction (i.e., to protect resources, to reduce user conflict, to protect wildlife habitat, etc.). Symbols should be used where possible rather than letters, to provide clear, concise direction. The carsonite signs used on individual routes in the WEMO planning area could very easily be modified to provide directional arrows, the terminus of a route where circumstances dictate or even a notation that vehicle use is limited to routes signed as open. Routes designated as limited to a specific use could also be signed according to their limitation, e.g., limited to private landowner, mining operator, etc. unless monitoring indicates additional treatment, such as gating, is necessary to affect

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	vehicle use compliance.
1002	Route signs could also be modified to reflect an admonition that vehicle use non-compliance is a punishable offense. Signs used in nearby national forests employ a symbol design that clearly reflects the allowed use (i.e., full-sized vehicle, motorcycle only, hiking only, etc.), as well as information pertaining to non-compliant vehicle use penalties. As open route signs are the most commonly encountered information conveyance device on public lands, they present the best opportunity to educate vehicle operators about allowed and prohibited uses; as well as penalties for non-compliant vehicle use.
1002	The BLM's policy of not posting closed route signs in the WEMO planning area needs to be revisited. Vehicle use is occurring on unsigned, non-rehabilitated routes. Active, timely management of these closed routes on the ground is necessary to prevent regular use. Closed route signs are a valuable tool which can be used to ensure BLM does not fall into a "black hole" of inaction, which has led to an ineffective vehicle use management system. Where vehicle use is or will cause adverse effects to resources, BLM is required to implement measures to prevent a recurrence of impact. While the physical rehabilitation of closed routes (together with monitoring and enforcement) remains the only long-term solution to halting continued vehicle use, closed route signing should be considered until rehabilitation work can be completed.
1002	The 2010 field assessment suggests rehabilitation of designated closed routes is integral to a successful vehicle use management program. However, field assessment findings also suggest that rehabilitation of closed routes is only one of several necessary management components to a successful program. Other components include: · Signing of open routes with a mixture of line-of-sight open signs and interspersed Limited Use signs explaining that vehicle use is restricted to routes signed as open; · Trailhead kiosks with a map of open routes and posted rules; · Rehabilitation of designated closed routes to the visual horizon through "vertical mulching" and boulder placement; · Timely and persistent repairs of rehabilitation vandalism, utilizing post-cable fencing where necessary in areas of repeated vandalism; and · Ensuring at least minimal presence of BLM or volunteer group personnel on a regular basis.
1002	Vertical mulching, boulder placement and fencing are all valuable tools that can and should be employed to successfully rehabilitate surface disturbance resulting from vehicle use. A careful review of all closed route rehabilitation actions undertaken to date in the western Mojave Desert is needed. Additional actions are likely needed to safeguard investments made with BLM funding and by the COHVC with taxpayer-generated funds. Additional management actions could include mandatory vehicle use education for California "Green-sticker" Program vehicle use in rehabilitation areas, increased resource monitoring, law enforcement patrol, specific area closure concurrent with rehabilitation work, or all of the above.
1002	Interpretive closed route signing explaining how and why rehabilitation work has been initiated may reduce levels of non-compliance and vandalism.
1002	A rigorous monitoring program should minimally be instituted when closed route rehabilitation projects are completed. A monitoring program can identify the most efficient means of achieving rehabilitation objectives, minimizing vandalism and protecting on-the-ground work investments. Where monitoring identifies vehicle use non-compliance or project vandalism, an area closure should be considered, per Executive Order 11989.
1002	Levels of vehicle use non-compliance, resource management need/damage severity may need to be ranked in order to facilitate adaptive management. Limited staff and rehabilitation funding should be directed where they are needed most. However, lower priority rehabilitation needs should also be tracked to ensure they do not fall completely off the radar of network management tasks. Rehabilitation prioritization should also be adjusted where funding opportunities are identified.
1002	In Fiscal Year (FY) 2010, the BLM (2009c) received an increase of $5 million to support programs and partnerships that engage youth in natural resource management. In FY 2011, the BLM continued to fund these programs, as well as direct $1.0 million in base funding to support a new public-private partnership program with the National Fish and Wildlife Foundation. In addition to COHVC grants, this "Youth in Natural Resources" funding should be considered for implementing closed route rehabilitation within the WEMO planning area.
1002	BLM is required to mark designated areas and trails in a manner that use limitations are easily understood. All official BLM maps should be updated to reflect the current authorized route network. The required educational features of the RMMA Education and Permit Program and its associated map information should be duplicated throughout the WEMO planning area. Whenever route designations are modified, DAGs and other official maps should be revised in a timely manner. Interpretive language included on these maps or otherwise imparted by BLM officials should be clear, concise,

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	consistent and unambiguous as to what is required by visitors engaged in vehicle use activities. Additional interpretive information could also be included on these maps to improve their usefulness and functionality, as well as contribute to the BLM's overall vehicle network management program (refer to Appendix C).
1002	A high resolution map of the BLM's official designated open route network should be prominently displayed at primary trailhead kiosks or bulletin boards. Such mapping should clearly direct vehicle operators to the authorized route network. Additional map boxes with available handout maps may also prove useful in directing vehicle operators to approved routes of travel. Information pertaining to local and county riding ordinances, particularly those applicable to SBC (i.e., Ordinance 3973: Off-highway Motor Vehicle Use), as well as state and federal laws addressing off-road vehicle use, should also be posted at trailhead kiosks and/or bulletin boards. This information should indicate that penalties are to be applied for vehicle use violations and that applicable rules are strictly enforced.
1002	Limited use signs, identifying that vehicle travel is allowed only on routes signed as open, should also be posted at primary trailheads, particularly where no kiosk or bulletin board is constructed. Numbered "open route" signs should be posted at regular intervals along designated open routes; particularly where open routes intersect closed routes.
1002	Additional decals informing visitors that vehicle use is allowed only on routes signed as open should be affixed to open route signs, as these signs are intended to be the most commonly encountered information conveyance device used in the WEMO planning area vehicle management program. Open route signs should also indicate that there are penalties for vehicle use violations, as is commonly done with route markers on national forest land.
1002	Agency presence in the field and public education is sorely needed. This presence could be in the form of Law Enforcement/Park Rangers or other BLM personnel. Local media should be used to improve public education about BLM's route network and rules for use.
1002	BLM should also utilize volunteer groups where available to assist in education/route rehabilitation/signing efforts. Where volunteer group hours are used as a basis for BLM grants, the associated grant funds should be directed to the area where these volunteer work hours are being generated. BLM Field Office-requested base funding should be used where appropriate.
1002	In summary, BLM is required to monitor vehicle use. While some vehicle use monitoring has been conducted in the BLM's Rand Management Area, the WEMO Plan FEIS does not indicate that BLM has developed a specific monitoring plan for the remainder of its designated route network. The public has not been informed of how BLM intends to monitor vehicle use.
1002	Effective monitoring could be guided by past direction identified in the BLM's (1980b) CDCA Plan (Appendix D: Attachment 1 [Off-road Vehicle Monitoring Guidelines]). Consistent with the Open Government Directive (OMB 2009), the BLM's reporting of monitoring results should make use of existing agency websites to the maximum extent practicable to promote transparency and accountability. Guidance recently proposed and clarified by the CEQ (2010, 2011) succinctly identifies this specific direction for improving agency mitigation and monitoring: 1. Proposed mitigation should be considered throughout the NEPA process. Decisions to employ mitigation measures should be clearly stated and those mitigation measures that are adopted should be identified as binding commitments to the extent consistent with agency authority, and be reflected in both NEPA documentation and decision documents. 2. A monitoring program should be created or strengthened to ensure mitigation measures are implemented and effective. 3. Public participation and accountability should be supported through proactive disclosure of, and access to, agency mitigation monitoring data.
1002	Monitoring reports, access to documents, and responses to public inquiries should be readily available to the public through online or print media, as opposed to being limited to Freedom of Information Act (FOIA) requests made directly to the BLM.
1002	Unfortunately BLM has not focused law enforcement in non-compliance areas, nor has the WEMO Plan been amended to reflect recommendations for increased on-the-ground agency personnel. Nor is there any indication that enforcement or other BLM personnel presence has increased since the WEMO route designation was formally adopted. A number of similar law enforcement actions and vehicle use management strategies have been prescribed by BLM nationally. While this direction was not found to be incorporated into the 2003-05 WEMO route designations, these types of measures should be considered in the future: · Strengthen existing or develop new law enforcement agreements with state and local law enforcement agencies wherever feasible; · Explore establishing... a system of 1-800 numbers to give citizens a convenient and timely method for reporting motorized OHV concerns;

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	· Patrolling techniques should reflect the types of activities taking place on the public lands, such as the use of all-terrain vehicles (ATVs), motorcycles, etc.; · Adopt patrol techniques, including community policing that will enhance visitor contact and user compliance; · The BLM will work with adjacent land managers, landowners, and local law enforcement agencies to develop more consistent and coordinated enforcement techniques on all lands; · Prepare an annual law enforcement report that contains summary data and illustrative examples of BLM enforcement actions related to motorized OHV management; and · As part of BLM's comprehensive motorized OHV education program, prepare information that describes legal consequences for violating motorized OHV regulation (BLM 2001).
1002	Unfortunately, most of these areas have subsequently been relegated a low priority for management action implementation. The Kramer Subregion, supporting several special areas and a DWMA within an urban interface area with extensive illegal vehicle use, has been assigned a priority of 18 out of 21 implementation work areas (BLM 2011a-d). The Fremont Subregion, a subregion possibly containing the highest density of illegal vehicle routes in the WEMO planning area, has been assigned a priority of 14. The El Mirage Subregion, located adjacent to the El Mirage Open Area, a priority of 16. The Mitchell Mountain Range northwest of Barstow, where uncontrolled vehicle use issues have been identified (BLM 2003a, 2005a), a priority of 20. The Red Mountain and El Paso subregions that support extensive desert tortoise and other at-risk resources have been assigned a priority of 20. The East Sierra Subregion with its many riparian habitat resources, a priority of 21. Per previous CDCA Plan and/or WEMO Plan amendment criteria, the above areas merit a much high priority for active management.
1005	For off-highway users wanting to do the right thing and stay om designated roads and trails, the lack of signage makes that compliance nearly impossible. For roads and areas that are not designated for travel, signs must be erected indicated this very clearly.
1012	Lateral/parallel roads (OHV tracks, etc.) to major roads might be closed – but BLM's expensive attempts to camouflage them in the Ord Mt. region have largely failed – and "closed" signs don't survive long. The Plan needs to reflect on-theground reality with minimal ranger patrols.
1013	Thoughtful planning for the future should recognize the variety of users of this resource and how to accommodate them while protecting the flora and fauna. We believe that the best way to do this is by recognizing trails that have already existed for many years and add improvements like rating by difficulty (novice, intermediate, expert), descriptive trail markers, and historical points of interest. As evidenced by over 40 years of use by motorized Off-Highway Vehicles, this area's trails are maintained by natural environmental events (wind and rain) without the need of man's intervention or financial resources.
1013	Required maintenance for this system could be done by volunteers, thereby saving on maintenance costs. The Jawbone Canyon Store Trail System Team is ready, willing and able to supply volunteers to implement and maintain the proposed trail system project in partnership with the BLM.
1013	By opening single-track and quad trails and providing the opportunity the public is seeking, the BLM will undoubtedly have a large reduction in law enforcement expenses. Compliance will greatly increase if the BLM will provide a diverse trail system including significant single-track and quad trail systems.
1013	The BLM has been using barriers, posts and fences extensively in the Jawbone area to block trail access and cross country travel. In order to keep the proposed trails at their designed single-track or quad width, we suggest using similar barriers and fencing at key intersections, which only allow vehicles of certain widths to pass through. Our volunteers would like to help install them.
1015	All roads MUST be signed CLOSED.
1015	I am concerned that there is no signing of open or closed roads in an open as all roads in an open area are open even when unsigned. I think the BLM must insist to the judge that roads be signed closed and the open roads unsigned or signed remain as they are.
1016	In those areas that have pictographs, petroglyphs, scientifically significant locations (middens and caves and such), BLM should not post signs or construct kiosks and where they are currently existent they should be removed. Where possible the road should lead past and not call attention to the "arc site". Where these sites are currently signed the signs should be removed.
1016	All roads designated closed through this process or any other process, must immediately be signed CLOSED.

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Document Number	Comment Text
1017	Routes, regardless of jurisdiction, should be signed so that the public knows what is available and can stay on designated routes.
1020	BLM must include plans to educate OHVers sufficiently to get their compliance
1020	BLM must provide useable route descriptions
1020	BLM must implement density management in such areas.
1021	The original ROD WEMO plan calls for an education program for the Rand mountain management area with a small fee implemented. The education program should stay in tact, the fee should be dropped. The fee was never addressed in the last go around of stakeholder input, it was snuck in during draft of the ROD.
1025	The EIS should also address education and enforcement activities to increase compliance with the designated routes. Designated routes need to be signed open. The EIS needs to identify mechanisms for closing and rehabilitating undesignated routes, as well as mechanisms for preventing future route proliferation.
1026	Because many of the existing routes are in sensitive areas, language should be added to WEMO Plan 2.3.6 Monitoring, Adaptive Management and Implementation section to identify the specific monitoring program that will ensure that the agency does not authorize routes in sensitive areas that it cannot monitor.
1027	For roads and areas that are not designated for travel, signs must be erected indicated this very clearly.
1028	Site specific monitoring of motorized versus non-motorized use must be provided for each route.
1028	line of action and all education measures should be exhausted before pursuing other actions. There are situations were education is far more effective than law enforcement.
1033	In addition, in some areas, off-road vehicle use is occurring within Caltrans ROW, adjacent to the traveled way (e.g. State Route 14 in the Jawbone area, near Red Rock State Park). Besides being a safety and liability concern, such use also can destroy native plants and soil, and can create additional highway maintenance and safety problems due to erosion. Please address methods to inhibit such use (e.g. enforcement, education, etc.) and to repair damage.
1033	If any routes currently accessing a State highway are to be closed, the BLM should consult with the nearest Caltrans District office to ensure closure is done with a treatment appropriate to the situation so as to prevent continued use (e.g. re-vegetation, mounding of earth, etc.).
1042	Kiosks must be placed at all entry routes to the sub region and include something about the specialness of the region as well as the rules, dangers and how to reach law enforcement and emergency services.
1046	8) Monitoring: The need for annual monitoring has been identified since the very first 1980 Desert Plan.
1046	We do not agree that closed routes should be marked with a sign.
1046	Damaged signs must be repaired/replaced immediately. If parking/staging is to be allowed, there needs be a barrier to limit the size appropriate for the area.
1046	Descriptions and the significance of riparian areas for wildlife should be described on signs appropriately placed at the hiking trailhead to such an area as well as on kiosks for motorized visitors.
1055	Law Enforcement It has been demonstrated from the existing network of illegal routes, widespread examples of soil erosion, violations and accidents, complaints from residents, observations in the field and law enforcement activity that the BLM currently does not have the capacity to enforce the law regarding ORVs on the lands under their jurisdiction. During large ORV events, law enforcement personnel are concentrated and rural communities are left defenseless against the influx of riders from surrounding areas. The designation of ORV routes must be based on a calculation including the capacity of the BLM to adequately monitor and protect areas with designated routes. This calculation alone will greatly reduce the extent of the designated route network. No management plan will be effective without a sufficient force to protect the lands within the management area.
1055	Route Designation Terminus The designation of open ORV routes must be accompanied by a route terminus sign since those routes without such a sign encourages trespass onto private property, public lands and roads off-limits to green sticker vehicles. This is a very serious problem since without the indication of a terminus, riders continue on designated routes past their ends. This leads to trespass on private and public lands and many of these routes cross rural roads leading to the potential for collision with local traffic. The failure of the BLM to place route terminus signs on designated routes places the agency in a position of liability for potential accidents and trespass.

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1055	Large Format Signage and Informational Kiosks in TM 3 The BLM has been mandated by the court to erect large format signage and kiosks at all areas where there has been shown to be significant ORV use. The kiosks must include: • a statement of the relevant laws, penalties for violation and contact information for local law enforcement • a large scale map of the area that includes open routes and areas off-limits to ORVs including private property and rural communities, ACECs, wilderness areas, wildlife corridors and lands off-limits to ORVs • a short description of the impacts of ORVs on soils, vegetation, wildlife habitat and cultural resources • the components of the TREAD Lightly campaign • safety information including age limits, use of helmets and other safety gear The BLM must install 12 kiosks in the Morongo Basin including the following locations: • between Interstate 10 and Morongo Valley on Highway 62 at Indian Canyon Road • on Highway 62 in Yucca Valley at the top of the Morongo grade • at the corner of Highways 62 and 247 • at four locations between Highway 62 and Interstate 40 on Highway 247 • at two locations on Highway 62 between Yucca Valley and 29 Palms • at two locations on Amboy Road between Adobe Road and Iron Age Road • at Highway 62 and Godwin Road In addition, the BLM must install kiosks at the Fort Mojave, Chemehuevi and Colorado River Indian Tribes tribal lands in collaboration with representatives from those tribes. ORVs have been responsible for the destruction of tribal lands and invaluable sacred sites on all three of these reservations.
1060	Enforcement - the crux of the problem lies in enforcement. Unlawful motorized travel created many of the roads that are excessive today, and are the reason the BLM is attempting to create an appropriate route designation plan. Consideration should be given to enforcement in the plan. An educated public may reduce the need for future enforcement. Education of local sensitive plants and animals may help reduce the impact to those species. Information on road status should be available in several technology appropriate fonmats. Consideration should be given to an education program in the plan.
1071	I see that unlicensed kids on ORV's are not a problem on the combined use highways/roads, as long as they have had training and are supervised by a proper adult. (This also should be specified in the WEMO plan, and in local signage) So this mitigates my idea of having 2 parking lots (one at each end of Randsburg) for families to walk their kids into town (as I mentioned on the phone to you this morning). But I and others, still think that a couple of parking lots for ORV'S would be a good thing
1071	And the "Sign" part on the road. It would make it easier for them to identify trails, and thus, augment BLM enforcement officers "duties". My idea of the value of this as a subtle enforcement tool, especially applies to the "90 degree" crossing of ORV's across paved roads/highways. should also be a part of your (BLM) sign criteria. I see it nowhere I have been in the desert. It is for safety, and lets the on-highway traffic know to keep their eyes open for others (probably slow moving), crossing the highways and roads. It could also be used for enforcement in very subtle ways, to keep people on trails, and more importantly, inform CHP and other "unknowing-of-local-trails" officers, of who is on and off "designated" trails, as they drive by in their normal duties
1071	Allow someone/s to sign BLM,s Rand area maps/permits from the local area, for unknowing visitors. Staff the BLM info table with at least one local person, who has a local view, this is not a paid job. Seek out local balance.
1071	These signs are so ineffective, that they can be construed as graffiti. An example: When you go 45 mph on a paved road/street, the sign is about 2 feet square. When you go 45 mph off road, and concentrating on other things, signs are about 4 inches square on carsonite stakes. What is wrong with this picture: 4 square feet vs. four inches square? The Kiosks are full of info made to read at a desk and from a piece of paper 8 1/2 X 11", and at arms length. I maintain, that an adolescent ORV'er should be able to ride up to a kiosk and see a stylized map and know where to go,--- without stopping his engine, taking off his helmet, and dismounting and walking up to the kiosk for info. (We don't do this in normal driving.) Few do this in the Desert. And then, the info is "inaccurate, incomplete and confusing".
1072	At least put Dead-End signs up to keep people from cutting entirely new trails once they come to the end of these newly signed open routes!
1081	Many locations may have cultural resources. In those areas that have pictographs, Petroglyphs scientifically significant locations (middens and caves and such), BLM should not post signs or construct kiosks. Where possible the road should lead past and not call attention to the site.
1082	A reasonable administrative remedy exists in such a situation where an existing mining claim is made inaccessible by a

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	road closure. The remedy consists of the issuance of an administrative permit that would permit access to and from an existing federal mining claim by means of a motorized vehicle. The result of the issuance of such a permit would have negligible impact on the existing environment because only very limited access solely for the purpose of accessing a specific mining claim site would result. The BLM would continue to receive an annual maintenance fee from the miner and the miner would not de facto be deprived of the investment of his time, ingenuity, productivity and property interests.
1087	All roads MUST be signed CLOSED. There is no signing of open or closed roads in an open area, as all roads in an open area are open even when unsigned. I think the BLM must insist to the judge that roads be signed.
1087	Roads leading to extreme riding or driving places, which are few and far between, should be posted.
1089	Matter of fact, the entire concept of "Closed unless marked Open" is not a practical one, there are too many checkerboard properties this cannot function
1089	The Rand education program the fee should be dropped. The fee was never addressed in the last go around of stakeholder input it was snuck in during draft of the ROD
1095	BLM must erect informational kiosks in access areas with accurate maps, relevant laws and how to contact law enforcement.
1095	In Limited Use areas the maximum speed allowable should be 15 mph.
1095	BLM should maintain the policy of "Closed unless signed OPEN"
1095	More enforcement, heavier fines for ORV law violations
1098	Can we have a clear system, using footprints on signs for hikers, hoof prints for horses, single/double tire marks for motorcycl/ATV?Jeep use etc?
1100	Routes, regardless of jurisdiction, should be signed so that the public knows what is available and can stay on designated routes.
1100	All closed roads MUST be signed CLOSED. This is the most important concept in this entire planning activity and the BLM having failed to do so, is the reason the public is looking at the route designation process again. In the rest of the world and even in the open areas within the planning boundaries a route must be signed closed or gated to let the public know where they may go.
1101	It has been demonstrated from the existing network of illegal routes, widespread examples of soil erosion, violations and accidents, complaints from residents, observations in the field and law enforcement activity that the BLM currently does not have the capacity to enforce the law regarding DRVs on the lands under their jurisdiction. During large DRV events, law enforcement personnel are concentrated and rural communities are left defenseless against the influx of riders from surrounding areas. The designation ofDRV routes must be based on a calculation including the capacity ofthe BLM to adequately monitor and protect areas with designated routes. This calculation alone will greatly reduce the extent of the designated route network. No management plan will be effective without a sufficient force to protect the lands within the management area.
1101	The designation of open ORV routes must be accompanied by a route terminus sign since those routes without such a sign encourages trespass onto private property, public lands and roads off-limits to green sticker vehicles.
1101	The BLM has been mandated by the court to erect large format signage and kiosks at all areas where there has been shown to be significantORY use. The kiosks must include: • Statement of the relevant laws, penalties for violation and contact information for local law enforcement • Alarge scale map ofthe area that includes open routes, areas off-limits to ORVs including private property and rural communities. ACEes. wilderness areas, wildlife corridors and lands off-limits to ORYs • Ashort description ofthe impacts ofORYs on soils, vegetation, wildlife habitat and cultural resources • The components ofthe TREAD Lightly campaign • Safety information including age limits, use ofhelmets and other safety gear
1101	Historically, there are no designated OHV trails in this area. and the public is asking for these parcels to be closed once and for all. and having signage posted to that effect. There needs to be BLM LEO presence to enforce the law so that our public lands and surrounding private property can be protected from OHV trespass.

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1120	We should preserve and mark this historic trail
1127	Map: Red Moutain Signage and route access to Cuddeback Dry Lake and the surrounding area
1146	Since this is a motorized designation process, care should be utilized in making sure there is continuity is numerical signing of routes. The present WEMO signing is ambiguous in the numbering of trails. Many times it is unclear where a contiguous route actually goes. There is a confusing array of numbers not seen before and not on any readable maps available to the general public.
1163	Education program: This program should be eliminated in the Rands, but in its place be implemented in all of the WEMO areas, as a simple education program. This program was put on the Rands, without any input from anyone but BLM, and to say it only belongs to Rands is wrong. The Sierra club and CBD used this education element of Rands to shut down a perfectly legal trail, (a trail that is fenced in on both sides). Thus, that alone tells you how wrong this entire program is. It is missing the mark, we want to educate the Public and Desert Managers Group are spending millions on that, so why should Rands be held hostage on something that is desert wide?
1251	To successfully meet the challenge of effectively managing vehicle use on public lands situated adjacent to private acreage, we believe a concerted public education and route signing effort, BLM field presence and closed route rehabilitation and signage effort is necessary.
1251	Improved route signing, primary trailhead kiosk installation with large-scale route maps and use rules, closed route rehabilitation and mandatory use education requirements;
1251	Establishment of an effective, systematic vehicle use monitoring plan conducted on a regular basis by BLM staff, with the details/results made readily available to the public; • Development of a threshold which clearly identifies a level of unacceptable impact to public land resources, at which point a specific course of action will be undertaken by BLM to prevent future occurrence of these impacts; regular basis by BLM staff, with the details/results made readily available to the public;
1251	The adoption of strategies for effective enforcement of vehicle use on public lands and improved collaboration with city/county law enforcement personnel.
1256	Closed unless signed open will not work in the checker boarded West Mojave.
1256	3--Calif. DMV rules of the road say closed ways are signed. 4-- Caif. Parks and Recreation use closed signs. 5--Municipalities in and around the desert use closed signs. So the problem exists that trail riders coming on BLM limited use lands from Cal City for example or the open areas would tend to ride on unsigned trails.
1256	6-- You can not sign private land and many trails cross private land and in many incidents the trails split on private land and therefore the rider would not know which fork to take. In closing I would like to say, the idea that it doesn't have a sign must mean its on private property will be what people will think. You must put closed signs up for it to work.
1256	Route signage should be changed to coincide with surrounding area laws "open unless signed closed"
1265	RC3329 - Should take this sign down and put one up that says closed. This road dead ends into my salting area for cattle and the wilderness. People thing it is an open area.
1284	The designation of ORV routes must be based on a calculation including the capacity of the BLM to adequately monitor and protect areas with designated routes. This calculation alone will greatly reduce the extent of the designated route network. No management plan will be effective without a sufficient force to protect the lands within the management area.
1284	The BLM has been mandated by the court to erect large format signage and kiosks at all areas where there has been shown to be significant ORV use. The kiosks must include: • a statement of the relevant laws, penalties for violation and contact information for local law enforcement • a large scale map ofthe area that includes open routes and areas off-limits to ORVs including private property and rural communities, ACECs, wilderness areas,

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	wildlife corridors and lands off-limits to ORVs • a short description of the impacts of ORVs on soils, vegetation, wildlife habitat and cultural resources
1284	The BLM must install 12 kiosks in the Morongo Basin including the following locations: • between Interstate 10 and Morongo Valley on Highway 62 at Indian Canyon Road • on Highway 62 in Yucca Valley at the top of the Morongo grade • at the corner of Highways 62 and 24 7 • at four locations between Highway 62 and Interstate 40 on Highway 247 • at two locations on Highway 62 between Yucca Valley and 29 Palms • at two locations on Amboy Road between Adobe Road and Iron Age Road • at Highway 62 and Godwin Road
1287	All routes, regardless of jurisdiction, should be signed so that the public is provided reasonable notice regarding which routes are available for use and which are closed so that members of the public can make educated decisions on which routes to use.
1287	All closed roads MUST be signed CLOSED. In the open areas within the planning boundaries a route must be signed closed or gated to let the public know where they may and may not go. We are concerned that there is no signing of open or closed roads in an open area, as all roads in an open area are open even when unsigned. The BLM must insist that closed roads be signed closed and the open roads unsigned or signed remain as they are. Anything else is too confusing to the public to provide adequate notice.
1288	Consider BLM-County MOU using USFS MOU as a template and more active participation in the quarterly meetings of the interagency taskforce (USFS, County Code Enforcement, BLM, including LE) to enhance implementation monitoring and compliance. USFS LE contact is Curtis Davis, their Chief Ranger. Their MOU provides easy access to State (OHV probably) Grant $$ that are approved through the taskforce to do reclamation and other route maintenance activities. A three-way partnership could improve $$ return for BLM. Also, code enforcement is consistently turning $$ back to the state at the end of the year that it cannot spend.
1288	Rehab strategies and activities: USFS would like to have a coordinated effort on implementation (closures, restoration, signing, kiosks) along the boundary with a focus on Deep Springs/Warm Springs area where significant work was completed during the Willow Fire closure in 1999. USFS is interested in contributing needed resources to make this more effective (manpower and equipment)—may wish to pursue through an MOU (avoid more NEPA), similar to our AML MOU with the State. This would demonstrate implementation actions to the court and provide a mechanism to evaluate the feasibility of the motorcycle network concept based on response of the OHV community. If can get compliance, can support motorcycle network concept. If not, may need to take more aggressive actions in the area and oppose further expansion.
1296	Route Designation: Signs. It has come to my attention that certain BLM staff and/or at least one Sierra Club Member are removing and or relocating and GPSing signs when they disapprove of roads which under the court ordered BLM process have been designated open access. I don;t know if the new GPS information has been entered into the data base. An example occurred in the Darwin area where there is a watch committee. BLM put up the open access signs. A few days later certain signs were removed and after I mentioned this to Jack and Eddie the signs went back up. It is my understanding that the removal and or repositioning of open access signs occurred throughout the WEMO area. I have been told the number of signs removed/gone is in excess of 100. I have not heard how many were moved.
Travel Management Area 1	
1001	Some areas such as the entire Cady Mountains are very rich mineralogically and have special importance to rockhounds. Every effort should be made to maintain or restore motorized and vehicular access to as much of the Cady Mountains and other similar areas as possible.
1001	Southern Cady Mountains CN 112604, 115209 - Searchers use this route to access rockhounding areas, please keep open. Spur routes

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	usefuVneeded for parking/turnaround. Many rockhounders elderly and this is the only way they can access rockhounding areas. CN 112516, 1183239, 1183240, 115211, 1183262, 1183265 - same as above CN115228, 1026231 - same as above CNl184745 - same as above. Jeep trail used to run NW rrom 2.5-mile mark but documentation is dated 1950s and may have been washed out. Searchers say some use on jeep trail still occurs; nothing visible on airphotos. CN 1026223, 1026222, 1184790, 1026224 - same as above CN 1183202 - wash route leaving north rrom this segment (34.772 116.327) has been closed for restoration. Searchers would like vehicle access for older club members up this wash.
1001	Manix Wash Collecting Field Includes but not limited to CN 135290, 1045834, 1045837, 1045838, 1045839, 1045845, 1074269, 1128331, 1128332,1128343,1130624,1130672,1167834, 1167835, 1167836, 1167837, 1167838, 1167839, 1167840, 1167841,1167842,1167843,1167844,1167859, 1167860, 1167861, 1167862, 1167863, 1167864, 1167865, 1167866 - Searchers request that these routes become or remain open. Manix Collecting Field (Field CAI (peg not sure if this is the same area) CN 1128332, 1128343, 1130625, 1130672-3, 1167836-8, 1167840 - Searchers request that these routes be designated as open for access to rockhounding areas.
1001	Afton Canyon Area south of Mojave Rd.IAC9610 between Afton Canyon Campground and east.7 ofa mile - fairly extensive rockhounding area. Searchers request that routes into the area be developed and designated open, especially from the trestle .7 miles east of the campground.
1001	Baxter Wash (south of Afton Canyon) Kim has information that she needs to bring in for this area. Access currently allowed on AC9606 into the area; USGS maps show jeep trails that have not been digitized. (check with Kim's source when she brings it in).
1001	Broadwell Lake/Crucero Road off 1-40 CN 1183375 - BL8660 - designated open. Searchers request that this route remain open for access to rockhounding area. CN 1183317-20 - BL881 0 - designated open. Searchers request that this route remain open for access to rockhounding area. C 1026227, 1184745 - BL971 0 - designated open. Searchers request this route remain open for access to rockhounding area. CN 1184782-4 - BL9730 - Main route designated open, a spur is not. Searchers request that the open route remain open and the spur become designated open for access to rockhounding areas. C 1026224 - BL9741- Designated open. Searchers request that this route remain open for access to rockhounding area. C, 1026226 - BL9720 - Designated open. Searchers request this route remain open for access to rockhounding areas.
1073	Map or Subregion Name and Number: Broadwell Lake Subregion Route#: AF137 Comment: Route AF137 is a a canyon as scenic as Afton...The Problem: AF137 is over 8 miles to the slot and back, which could be done in a day, but one could never hike all the amazing side canyons with out hiking out for water...Using AF132 as a substitute to connect to AF137 means crossing steep jagged rock terrain...Closing AF137 would be a huge loss.
1073	Map or 5ubregion Name and Number: Broadwell Lake 5ubregion Route#: Branches from AF042 Comments: Access to hiking areas that would be extremely difficult to reach with out this road. Physically, it is a well established raod. It allows hiking to the highpoint of a ridge of hills along the south side of hidden valley for amazing views across hidden valley and Cave Mountain to the Avawatz Mountains and south accross to the Rodmans and Newberrys.
1093	Map or Subregion Name and Number: Broadwell Lake 5ubregion Route #: AF137 Comments: Please reconsider the closure of these routes for the benefit of those who cannot access them without vehicular transportation. Thank you.
1111	Map Name and Number - Afton County Detailed Map 2 Route# - AC9616, BC 9470 Grid Location -

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	Point of Interest - Comment Type - Extends south to meet BL9470 and form the only towing route thru the area and access to the rock hounding area from the south avoiding Afton train track. If adversely affects bighorn lambing, limit seasonally.
1111	Map Name and Number - Afton County Detailed Map 2 Route# - BL 9470 Grid Location - Q7, Q6, R6, S6 Point of Interest - Comment Type - Site Specific The route does not continue in the direction of the dashed open route to AC781S on map and instead continues NE in the wash to meet AC 781S. Should revise location and maintain as open this extension of route (and eliminate dashed extension where there is no route). [Attatched Map]
1111	Map Name and Number - Afton County Detailed Map 1 Route# - Cady WSA Grid Location - 1-8, 1-9, J9, J8, K8 Point of Interest - Comment Type - Site Specific The route should be open instead of AC9606 because this is the correct route for the rock hounds loop. It is not shown on your map but continues back to intersect AC9606
1138	The Cady Mountains should continue to have open dirt roads
12SS	Afton Canyon and Broadwell Lake Subregions: This includes the Cady Mountain Wilderness area, which is covered by limited vehicular routes, but which provide supplemental chronological data (paleontological fossils, volcanic ashes, and paleomagnetic measurements) that extend the chronology into older rocks of the Mojave Desert. The Cady Mountain area is not as well known as the Mud Hills area but the chronologie data in both areas are complimentary and will prove more valuable as the Cady Mountain area becomes better known. Please don't close access to these areas so that researchers can develop the chronological resources available in each, to extend our knowledge of these resources, and to monitor and protect the resources.
1260	This letter presents established routes to significant localities shown on the Afton and Broadwell Subregion Maps. Previous research in these areas has been conducted by Miller (1980), Moseley (1978), Woodbume (1998), and Reynolds (20 1 0). Access routes to localities pass through sections listed below and are shown in red on the attached maps. T II N, R S E, Sec's 3S, 36 T II N, R6 E, Sec's 27, 2 8, 29, 31, 32, 33, 34 T 10 N, R S E, Sec's 31, 32 T 10 N, R 6 E, Sec's 4, 8, 11, 12, 13, 14, 31 T 10 N, R 7 E, Sec's 6 T 9 N, R S E, Sec's 2, 3, 4, 6, 7, 8, 13, 22, 23, 27, 28 T 9 N, R 6 E, Sec's 34, 3S T 8 N, R S E, Sec's 4, 6 T 8 N, R 6 E, Sec's 2, 3, 4, 9, 10, II T 8 N, R 7 E, Sec's 2, 3, 10, 1S, 22, 23, 2S. Please maintain these routes in an "OPEN" status to allow continued access for management and protection of significant, nonrenewable paleontological resources.
1261	Geology areas follow and access routes are shown in red on the attached maps. T II N, R S E, Sec's 3S, 36 T 1 1 N, R 6 E, Sec's 27, 2 8, 29, 31, 32, 33, 34 T ION, RS E, Sec's 1 T 1 0 N, R 6 E, Sec's 4, S, 6, 8, 1 1 T 9 N, R 7 E, Sec's 21, 22 T 9 N, R 6 E, Sec's 21, 28

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	T 8 N, R 5 E, Sec's 6 T 8 N, R 6 E, Sec's 3, 10 T 8 N, R 7 E, Sec's 7, 1S, 30, 29, 28, 27, 26 Please maintain these routes in an "OPEN" status to allow continued Earth Science education, family camping and hobby collecting.
Travel Management Area 2	
1001	Darwin Hills CNl161SS6-S60, 1161607-9, 1162524, 11863S7 - Rts SE64 and 66 - Searchers request these remain open for access to rockhounding. CN I 161S87, I 161S92, 1161S90, I 161617 - Anaconda mining area - Searchers request these remain open for access to rockhounding.
1001	Klondike Chalcedony Rose Field C 109237, 112739,334S42 - routes not designated. Searchers request these remain open for access to rockhounding.
1001	South of KlondikelRt. 66 CN 112768 (NS7967) - Designated open. Searchers request that this roule remain designated open to the ghost camp for access to rockhounding area.
1019	Formal visits to Darwin Mine, Cerro Gordo Mine, Snow Cap Mine in Owens Valley region and many others have been excellent opportunities for my students to learn about historical and reactivated mines from geologists in the local regions of California. Having access to these mines and other mineral deposit locations helps our next generation learn from experienced mining personnel and BLM geologists in the process.
1019	Educational geology areas reached on the attached maps include all roads and trails prefixed by "SE" (Sierra and Darwin Subregions) and all roads and trails prefixed by P (North Searles Subregion) and all roads and trails prefixed by "RM" (South Searles Subregion)...Please maintain these areas as open to to allow continued earth science education, family camping and hobby collecting.
1044	We also request that BLM designate a staging area or areas for off-highway travelers, to minimize traffic, dust, and noise impact on Darwin residents. The abandoned mill site in Lucky Jim Wash could be one possible staging area.
1044	It is essential to maintain alternative routes for entering and exiting Darwin in case of road closures on Highway 190 and the Darwin Road. Some of the currently designated routes serve this purpose in case of emergency. These include: SE19/SE9/SE75; SE19/SE47; and SE66.
1044	The currently designated open routes in the Darwin Subregion are essential for access for purposes of recreation, hiking, bicycling, mining, education (geology classes), hunting, etc.
1044	The main roads to Darwin, namely, Highway 190 and the Darwin Road, are sometimes impassable owing to flooding, snow, or rock falls. It is essential that safe alternative routes be available for entering and exiting the town in case of emergency. The following routes are needed for this purpose: SE19/SE9/SE75; SE19/SE47; and SE66/unmarked road 11.
1044	Darwin's water line road (west of and parallel to SE40, and not currently marked as open), provides access to Darwin's pipeline, and must remain open. This road should not be designated as open for offhighway travel, owing to the sensitivity of the pipeline, which runs alongside this road.
1044	The route currently marked as SE24 should remain open all the way to its end, because this provides access to the ridge that Darwin residents plan to use to relay a microwave signal from Lone Pine or Keeler for broadband service to Darwin.
1044	The area around Darwin is very dry. There is no groundwater in Darwin, and sensitive areas such as Long's Well and Black Spring are accessible only by hiking. The roads that lead to the trailheads are essential for access to these interesting areas. By distributing traffic over a network of roads, as on Lower Centennial Flat, the current route system minimizes the damage that more focused heavy impact might create. The existing route system providing access to the historical mining areas around Ophir Mountain and the southern Darwin Hills allows for exploration of the mines, provides access for hiking into more remote areas, and distributes the impact of modern traffic in historically heavily disturbed areas.
1044	SE9 Alternate exit/entrance to Darwin. Access to Centennial Flat. Main artery – connects SE7S to SE19. Great

Table C-2. Scoping Comments by Comment Category

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	views throughout this route, and access to hiking, botanizing, and mining areas. Auto travel. [NOTE: Not properly identified on map at highway intersection.] SE18 Access to Black Spring. Access to hiking area. SE19 Alternate exit/entrance to Darwin. Access to Black Spring. Great views. Access to hiking, wildflowers, historic mining areas. Connects and completes loop to Darwin. Auto. Popular. SE20 Interesting road leading into Coso foothills. SE21 Interesting road leading into Coso foothills. SE22 Interesting road leading into Coso foothills. SE23 Loop to Centennial Flat. Alternate route from Darwin to Centennial Flat if pass into Centennial Flat is blocked. Very interesting views and terrain. Access to SE24 (see below). SE24 Access to proposed site for relay of broadband signal to Darwin. SE2S Access to Long's Well trailhead. Important area for hiking and viewing wildflowers. Camping at trailhead. Auto/bicycle. Popular. SE26 Access to historic mining area. [Note that there are two SE26's on large map.] SE28 Access to historic mining area and inholdings. Excellent for rockhounds. SE30 Access to mining area. Important for geology, hiking. Auto/4X4. Popular. SE31 Connects Darwin Canyon Road (#11) to mining area east of Ophir Mountain. Becomes 4X4 where route is currently unmarked. WEMO-1044. SE32 Access to hiking route to top of Ophir Mountain. Interesting canyon. SE33 Access to mines. Beautiful drive in interesting historical area. SE34 Access to historic mining area. Interesting area for rock collectors. SE3S Access to historic mines. Calcite hole. Rock collecting. Access to lava fields. SE36 Provides access to small spur roads where there are mining inholdings. SE40 Access to SE41 and NAWS gate. Continues into scenic area. SE41 To NAWS gate. ESSENTIAL FOR ACCESS TO WATER LINE ON NAVY BASE. SE42 Connects SE40 and SE43. SE4S Access to large camping area. Spur roads to many old mines, of great historical and geologic interest. Excellent starting point for hiking in the Darwin Hills. Auto/bicycle. Very popular. SE46 Short spur route provides access to extensive hiking area. Great views. Wildflowers. SE47 Alternate exit/entrance to Darwin. Makes loop from Darwin Road to SE19 and Darwin. This was once the historic road into Darwin. Interesting and varied terrain. SE48 Short spur road providing access to historic mines. Access to large hiking area. SE49 Connects SE19 and SE47. SE60 (Route marker on the ground; not on map.) Access to Jackass Mine. Spectacular overlook of Panamint Valley and Darwin Wash. Popular. SE61 Access to Zinc Hill (geology, history). SE62 Access to scenic and historic mining area. Important route. SE63 Access to Zinc Hill (geology, history). SE64 Access to Zinc Hill (geology, history). SE6S Access to large historic mining area. Camping area. SE66 Alternate exit/entrance to Darwin. Sometimes referred to as Zinc Hill Road. Access to Darwin Canyon, Darwin Wash, China Garden, Zinc Hill. Extremely interesting geology all along this route. Very important road. SE67 Access to extensive historic mining area. Excellent hiking from end of road. Spectacular overviews of Darwin Hills. SE68 Access to historic mines and extensive hiking area. Steep 4X4 route leads to a spectacular viewpoint. SE69 Access to mines and extensive hiking area. SE70 Access to Centennial Canyon SE71 Access to Centennial Canyon Trailhead. Spectacular views. Hiking up historically important canyon. SE72 Access to clay pits. SE73 Access to Timbisha Shoshone tribal lands. Access to clay pits. SE75 Main artery – access to SE71, SE9, SE72, and complex of roads on Centennial Flat. UNMARKED ROUTES: 1 Small connecting road loops S19 and S2S. Auto/bicycle. Popular

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	2 Small loop circles Darwin Cemetery. Historical interest. Community access for funerals. Auto/bicycle. Popular. 3 Darwin airstrip. Provides access to other roads. Auto/bicycle/airplane. Popular. 5HOULD NOT BE USED FOR CAMPING OR STAGING 4WD TRIPS. 4 N 36 17 15 W 117 36 56 Spur to Mt. Ophir trailhead. Important access to hiking. Auto/bicycle. Popular. S N36 17 9 W 117 36 50 Access to Kellogg mine area. 5hort spur to trailhead. Wildflower canyon. Access to extensive hiking area. Auto/bicycle. Popular 6 N 36 18 25 W 117 38 30 5hort spur branches to 3 campsites. Auto/bicycle. Astronomical observation point. This complex of small roads is very important to local residents. Spectacular viewpoint. Campsites. Cell phone access (no cell service in town of Darwin). Important for emergencies when land lines are not functioning. 7 Connects to #5, makes loop to Darwin Road. Auto/bicycle. Popular. 8 Loops 5E33 and 5E26. This short and interesting route connects mining areas. 9 N 36 18 25 W 117 38 29 Leaves #6 and goes to bicycle trailhead. Bike route. Popular. 10 N36 18 26 W 117 38 25 Campsite. Popular in summer, occasional use in winter. 11 Main route from Darwin to Darwin Canyon. Access to mining roads. Essential exit/entrance route from Darwin to Panamint Springs. Auto/4X4. Popular. 12 Darwin Water Line Road (west of and parallel to 5E40). Provides access to Darwin's pipeline. Should not be used for recreational traffic, which should travel on SE40). 13 Loop to SE31. Connects Darwin Canyon Road (Zinc Hill Road, #11) to SE30/5E29. Access to many mines. 4X4. 14 Access to Long's Well for maintenance of water source. 4X4. Hike to spring. 1S Access to historic mining district. Complex of several roads leading to important mines. Spectacular views and excellent hiking.
1044	we request that BLM acknowledge that Darwin's water line road (parallel to and west of 5E40) must remain open to provide access to the transmission line carrying Darwin's water supply. This is not, and should not be, a designated route for recreational off-highway travel due to the sensitivity of the pipeline.
1044	The currently designated 5E24 provides access to a ridge that Darwin residents plan to use for microwave equipment, to transmit a signal from the Owens Valley to Darwin, once the Digital 395 fiberoptic cable has been installed.
1044	Many off-highway routes converge on the inhabited area of Darwin as a hub. To reduce noise, dust, and traffic impact on Darwin residents, we request that BLM designate a staging area or areas outside of town so that off-road travelers can unload and mobilize their equipment without disturbing town residents. One possible area for staging would be the abandoned mill site (N 36 16.131 W 117 35.917). The air strip should not be used for staging, because it is currently in use and needs to be available at all times for landings and takeoffs. Also, excessive high-speed vehicular traffic on the air strip degrades the surface, making it unsafe for use by aircraft.
1044	5ITE A Suggested location for staging area for OHV travel, in general area of abandoned mill site west of Lucky Jim Wash (N 36 16.131 W 117 35.917).
1044	SITE B Proposed location for microwave relay for broadband to Darwin. (See SE24.)
1045	the advent of the Digital 395 project in the Eastern 5ierra will open up an important broadband corridor. In order to benefit from this new fiberoptic backbone, Darwin will need to install communication facilities to send the signal from Lone Pine to Darwin, via an intermediate relay point. If the road providing access to this relay point were to be closed, that would kill Darwin's chances of utilizing this signal.
1075	1)darwin subregion and 2) the sierra subregion...further restricting roads now in use will further constrain humanity from accessing nature. with so few roads in this region the closure of any road precludes access. those with a passionate need to "be in nature" will eventually be restricted to the nearest paved hiway or at best a major dirt road with no opportunity to leave that road. those who would camp are told to camp alongside the open dirt thoroughfare. this is often not possible without obstructing other travelers and besides, it's dangerous. leaving small dead end spur roads open would allow campers to dispurse and enjoy their experience. how would you like to experience nature as a view from the narrow shoulder of a dangerous hiway with no hope of offroad access?
1075	1)darwin subregion and 2) the sierra subregion...the closure of well used roads up long alluvial fans in the california

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	desert is a statement to urban dwellers that they will no longer be able to enjoy weekend access to the desert mountains. a 5-8 mile hike to a former trail head subtracts a whole day from mountain exploration.
1075	rather than comment on specific roads by number my recomendation/comment is to leave all the roads in the darwin and sierra subregions open. we need them.
1117	Map Name and Number - N. Searles Route# - P11 N. Grid Location - Sect 13 T26S R44E Point of Interest - Comment Type - Keep open as single track north of pavement ending and extend s. from section 36 to pass on P67 as single track. Serve horse, motorcycle, and bike access to Manly Pass
1119	I would like to see Route SE28 connected to Route SE26. This is an existing two track road of crushed road and sand, and has been in existence for many decades. There are no riparian areas on this section, and completing the route will lessen impact on the road itself. There are some historical mining areas that can be hiked to rather easily and has good views of lucky Jim Wash. SE26 continues for a bit, and dead ends at the Darwin Falls Wilderness. 2. Route SE28A is a nice, historical, loop route. This is a 4 wheel drive loop with passage on a early 1900 style road and accesses an interesting mining area. At the cross-over at the top, there are several hiking routes to historical sites higher up. The route is in good shape; mostly small rock, sand and gravel, but steep and a bit rough, and technically interesting. There appears to be no riparian areas. There is one mine shaft that might eventually need a bat gate. 3. This little side road off SE30 leads up to a couple of interesting head frames and some hiking trails up to more interesting historical sites. There are excellent views from the top of the hill to the west. 4. This little side trail off SE30 leads to what appears to be a machine shop/building and a mine headframe. It is one of the few standing buildings in the area and the height of the mining pad allows a nice view of the surrounding area. Historically interesting and a great photographic area. This is a long preexisting road made of mostly crushed rock, sand and gravel, It meanders through several different eras of mining activity and connects the upper western Lucky Jim Wash with the eastern side of Ophir Mountain. It is historically interesting and has great views of the Panamint Mountains and the Zinc Hill areas. It eventually connects to the eastern entrance road to Darwin. The short side roads lead to small historic mining areas. Connecting this route to SE 60 allows a complete loop without backtracking through Darwin and lessens impact on the area. This is an extremely scenic, historic, and interesting route. Very historically photogenic and many opportunities for hiking. 6. This cluster of short roads all lead to historic mining areas. All appear to connect to the main eastern road into Darwin. 7. This is the main road into Darwin from the east and connect Darwin with SE66, the Darwin Wash Road. 8. This cluster of interesting routes connect the main eastern Darwin entrance road with many early mining areas. Lots of history, hiking opportunities, and of course picture taking. All of these roads are also somewhat technically interesting to 4x4 enthusiasts. They also connect SE45 and SE 60 with many interesting sites 9. These roads connect one huge, historical mining site with several eras of workings. All are good roads and lead to different areas. Lots of hiking trails. These trails connect with routes on non posted private property and allow a continuous route to some interesting mining areas and outstanding views of the countryside from many angle. 10. This loop would allow access to the airstrip and cemetery without going through the town of Darwin proper. This would also be a possible site for a staging area for events that require trailers and such to park and unload cargo, both animal and motorized. This

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	would stop some of the trespass inside the town site of Darwin. 11. This is the main western entrance between Hwy 190 and the town site of Darwin. This should be an Inyo Co. road. 12. This partially paved road was once part of the historic Keeler to Darwin Road. I'm told it was bypassed when the present entrance (see comment 11), road was built. The two open routes. SE68 and SE69 lead to scenic overlooks, and allow a very scenic view of the Darwin Wash for many miles. To me it's very spiritual and quiet. and allows to really see some of Mother Nature's beautiful work. 14. This isn't actually a road. It is mostly the bottom of the Darwin Wash and is mostly loose sand. It is a loop off of SE66. I've mostly seen just motorcycles and sand rails on it. [attached map]
1121	Map Name and Number - N. Searles Route# - P102 extends south to P140 Grid Location - Sec. 27 and 34 Point of Interest - Comment Type - Extend to connect to P140 bypasses airport, avoids conflict w/ indian wells residents and golf course.
1121	Map Name and Number - S. Searles Route# - Grid Location - Sec. 26 T27SR42E, extend east to across RM 3163 Point of Interest - Comment Type - Move GR? Line S. to match on ground and extend to connect on existing route for 2008-2010 dual sport to P140 on edge of map
1122	Map Name and Number - S. and N. Searles Route# - RM6140 to P1S8, P12S Grid Location - Point of Interest - Our personal property Comment Type - Maintain right to access our private property would consider right to pass to trailhead at end of P125
1142	We also request that BLM designate a staging area or areas for off-highway travelers, to minimize traffic, dust, and noise impact on Darwin residents. The abandoned mill site (N 36 16.131, W 117 3S.917) could be one possible staging area.
1142	Subregion: North Searles Route #: P68 Acces to Manly Pass that gives access to Paramount Valley
1142	We, the undersigned, request that all currently designated off-highway travel routes in the Darwin Subregion remain open. In addition, we request that BLM acknowledge that Darwin's water line road (parallel to and west of SE40) must remain open to provide access to the transmission line carrying Darwin's water supply. This is not, and should not be, a designated route for recreational off-highway travel due to the sensitivity of the pipeline. It is essential to maintain alternative routes for entering and exiting Darwin in case of road closures on Highway 190 and the Darwin Road. Some of the currently designated routes serve this purpose in case of emergency. These include: SE19/SE9/SE7S; SE19/SE47; and SE66/Darwin Canyon Road.
1142	Map: Darwin Route #: SE 24 Access to microwave relay site
1143	The Darwin Mine was developed in 1873 with water rights located in the Darwin Wash and a pipe line and utility easement CA8872 (also not shown on your map). The pipe line is underground in places and on the surface in others. There are dozer track that have been used to access the ridge lines, vents, and power poles and lines. Without access to our site, ventilation, and secondary escape routes, we would face serious safety issues.
1146	Darwin, North Searles Valley, South Searles Valley Subregions are huge amounts of archeological, geological, scenic and historical sites in these areas. Lack of use should not be a criteria for eliminating these routes.

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11S7	Grid Location - T0SR38E, Sec. 28, 32, 37 Connect SE881 to SE867 to form loop.
11S7	Grid Location - T17R38E, Sec. 17 Connect Hwy 190 to SE9 OHV experience
11S7	Map or Subregion Name and Number: North Searles What is the Issue/Concern/Opportunity? See attached map for locations. 1) Motorized access should be available to the Sand Dunes on this road. 2) This road is currently posted Closes, it provides a great view and should me marked Open as shown on BIM map. 3) This trail actually goes through and has been used for years by Endurance horse races and Dual Sport rides. In recent years jeeps forged a way through. Because of the total lack of single tracks, it should be designated Open to motorcycles only. 4) This trail does not exist. 5) There is an existing single track between the end of the Radio access road and Manly Pass. It has been used by Endurance Horse races and should be designated Open for Motorcycles. 6) These jeep roads are designated Open on the ground but show closed on this map? 7) There is an existing single track down this canyon that is used by local horses and motorcycles. There is also a single track trial that completes a loop. Because of the total lack of single track, they should be designated Open.
11S7	Map or Subregion Name and Number: Darwin What is the Issue/Concern/Opportunity? See attached map for locations. 1) This map is very confusing as it does not show Open county roads but rather shows them as closed BLM roads. This is a paved county road and should show as Open some how. 2) This old road was paved at one time, provides access to many old mines, and is now a single track in the narrow canyon. Because of the total lack of single track, ~ this route should be designated Open. v\: 3) This route appears to provide a loop experience and therefore should be)-, 0}f'l'l designated Open. ~ 4) Again this is paved county road and should show as Open some how. S) This must be a mapping error and obviously should be designated open
11S7	I.Map or Subregion Name and Number: Sierra Map 1 What is the Issue/Concern/Opportunity? See attached map for locations. 1) This route has been used for Dual Sport events, is shown open but is not marked Open on the ground. It should be designated Open. 2) BLM map is very confusing, there are two aqueduct roads, two power line roads, the old SP RR grade, and abandoned sections of Hwy 39S. They should all be designated Open. 3) This route provides a great Loop opportunity for motorcycles. It should be designated open to motorcycles only. 4) There was a single track in this location that used for many motorcycle events but has been destroyed by a new road going to a geothermal plant on the state land to the south. The single track should be rebuilt by the road builder and designated Open. S) This route provides a much more direct connection to the Loop to the open rouj e coming from the south.
11S7	Map or Subregion Name and Number: Sierra Map 2 What is the Issue/Concern/Opportunity? See attached map for locations. r-:(' tt" 1) BLM map is very confusing, there are two aqueduct roads, two power line roads, t::'s-S the old SP RR grade, and abandoned sections of Hwy 39S. They should all be designated open.)
11S7	rCOMMENTS: Map or Subregion Name and Number: Sierra Map 3

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	What is the Issue/Concern/Opportunity? See attached map for locations. 1) This is a single track connecting two BLM roads. It was built by the DWP in the early 1900s to survey the fal/line for the Aqueduct tunnel through the mountain to the west. Because of the total lack of single tracks, this should be designated open]
1157	What is the Issue/Concern/Opportunity? See attached map for locations. 1) This is a 2-track that is next to C1 sandwash that is more desirable than old race course that is soft sand. It should be designated Open. 2) This is a single track that has been used by many Endurance horse races and Dual Sport rides. It provides an exceptional view of the Pinnacles. Considering the total lack of single track, it should be designated Open. 3) This is a 2-track that provides a more recreational exit from Pinnacles area, it should be designated Open. 4) These are all either pipeline or power line roads that should be designated Open to the public not just utility companies
1254	This letter presents established routes to significant localities shown on the Sierra Subregion map of the Sierra Polygon. Numbered access routes that need to remain open are listed below. Unnumbered access routes that need to remain open are shown in red on the attached map. Routes prefixed with "5E" 2, 3, 9, 10, 18, 19, 20, 21, 70, 71, 72, 76, 430, 432,433, 748,752,756,776,777,778,858,859,860,867, 869,870,984,986, 987 Please maintain these routes in an "OPEN" status to allow continued access for management and protection of significant, nonrenewable paleontological resources.
1256	Map or Name - N. Searles Route # - Grid Location - T245R45E Sec. 14, T245R41E Sec. 28 Point of Interest - Single Track Trail Comment Type - Site Specific This is a crecent-shaped trail that allows riders to ride from pioneer point up and around indian wells and back w/o disturbing residents at indian wells
1256	Map or Name - S. Searles Route # - RM3150 Grid Location - T25SR41E Sec. 14, 6 Point of Interest - Comment Type - Site Specific Taking 3150 is the main way for dual sport events to connect off-road between ridgecrest and trona. 3150 should go through sec 12 and meet 3147 in sec 6.
1272	If you must close roads, here are a few hat I would not see a problem with closing: 1) 5E 46 & 5E 38; 2) 5E 42; 3)Unmarked route #1 (see map); 4) Unmarked route #7 (see map)
1277	Closing roads will restrict access to important hiking areas.
1279	[Identified Important Routes] SE71 - Auto, 5E75 - Auto, 5E9 - Auto, 5E19 - Auto, 5E25 - Auto/Bike, 1 - Auto/Bike, 2 - Auto/Bike, 3 - Plane/Auto/Bike, 4 - Auto/Bike, 5 - Auto/Bike, 6 - Auto/Bike, 7 - Auto/Bike, 5E47 - Auto, 5E24 - Auto, 13 - 4x4, 9 - Bike, 10 - Campsite
1281	Without access to our site, ventilation, and secondary escape routes, we would face serious safety issues. MSHA representative John O'Brien is trying to schedule a visit to the Darwin Mine sometime in May, 2012, and I am sure he will concur.
1281	We have tried to depict the areas of concern. However, with one hundred forty years of workings, we feel a buffer zone, allowing us access to the complete property holdings would be appropriate. As we have safety concerns for our employees as well as the public.
Travel Management Area 3	
1002	The threatened Parish's daisy (Erigeron parishii) is one of many special status plant species restricted to the western Mojave Desert (BLM 1999b, 1999c) that can be adversely affected by vehicle travel. It is found along washes, canyon bottoms or loose alluvial deposits on adjacent benches (Sanders 1998). Off-road vehicle travel is common in portions of

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	the Carbonate Endemic Plants Conservation Area and Bighorn Subregion; both of which have a high potential to support this species. Vehicle travel can result in soil disturbance, crushed/destroyed vegetation and potentially introduce non-native plants. As vehicle camping and parking can also occur within 300 feet (91.4 m) of designated open routes per the CDCA Plan (BLM 1980b, 1999a), it is critical that route designation in Parish's daisy habitat take into account the risk of vehicle use/parking/camping impacts to this species. There is no indication in the WEMO Plan that occupied or suitable Parish's daisy habitat was screened as a significant consideration in BLM's 2003-05 route designation effort.
1002	The endangered least Bell's vireo, southwestern willow flycatcher and yellow-billed cuckoo have been reported from riparian areas along the Mojave River (Patten 1998; Unitt 1998; Laymon 1998). These species are suspected to utilize this habitat type where it occurs at springs and along creeks in the Juniper and Bighorn subregions during migration. The yellow-billed cuckoo has been reported from Arrastre Canyon (C. Stubblefield, pers. comm. 2012) during the migration season. The threatened Inyo California towhee is known to nest in riparian habitat within the Argus Mountains (USFWS 1987); specifically within the Great Falls ACEC. ORV use has resulted in the direct loss of desert scrub and riparian habitat in this area
1042	1. Areas and trails shall be located to minimize damage to: Soil: Arrastre Canyon, Lovelace Canyon, Grapevine Canyon, Deep Creek Canyon and many of the other sites in the area have thin, granitic soils and hilly terrain which are especially susceptible to erosion. The many limestone outcrops may support rare plants. Watershed: Almost all streams and drainage goes into Arrastre Creek near the Arrastre Waterfall beside JF3330. Cottonwood Creek with its tributaries drains into Arrastre Creek near Bowen Ranch Road. Additionally, creeks in Upper Arrastre Canyon drain into Arrastre Creek near the VP mine and routes JF3221M, JF3259M, JF 3219M. Other watersheds in the area are drainages into the Deep Creek and the Mojave River, Lovelace Canyon and Grapevine Canyon. The watersheds in the region are predominately hilly terrain with numerous rocky outcrops and thin granitic soils. Vegetation: Most trails in the area originate from old mining roads. Historically, hunting and grazing activities have continued use of the old roads. Unfortunately, many of these roads have led to riparian areas and with continued and increasing use this leads to excessive degradation of riparian vegetation. BLM must be aware of and take into account that just because intermittent use in the past resulted in acceptable levels of degradation, continuation of that use and opening up the roads to pure recreation will have a devastating impact on riparian vegetation. Almost all the riparian areas are still in need of clean up from mining/grazing. Motorcycle trails have emerged along cattle paths many of which lead from one riparian area to another and along streams. While cattle paths often disappear in a season, once they are used by motorcycles they remain and become eroded and the spread of non native plants is increased. Air: Although most of the soils are granitic gravel, with continued use, the gravel becomes pulverized resulting in a power-fine particle that is easily airborne. There are also numerous limestone outcrops. Other resources of the public lands: The Juniper Sub Region contains important prehistoric and historic sites both within and outside the Juniper Flats ACEC. Native Americans certainly used the natural resources in the area for hunting, food gathering, and habitation etc., including water sources, vegetation and rocks.
1042	2. Areas and trails shall be located to minimize harassment of wildlife or significant disruption of wildlife habitats. Special attention will be given to protect endangered or threatened species and their habitats. Motor vehicle trails should not be located within a mile of streams, seeps and springs. Motor vehicle access to such areas as Arrastre Waterfall has resulted in the stream side being used as a camping area and the stream as a toilet, target shooting etc. The area around the stream is becoming denuded of vegetation and gravel from the erosion due to OHV hill climbing and use of an equestrian trail closed to motor vehicles is heading towards the stream.
1042	3. Areas and trails shall be located to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors. Some of the activities that may not be compatible and need special consideration are: 1) Motorcycle riding vs. hiking/horseback riding/running/mountain bike riding 2) Target shooting vs. picnicking/rock climbing/hiking/horseback riding/mountain biking/running 3) Motorcycle riding vs. grazing 4) Hunting vs. nature appreciation

Table C-2. Scoping Comments by Comment Category

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	Many residents in the Milpas Highlands area have complained of noise generated by OHV use on the nearby BLM lands in Arrastre Canyon. They are also acutely aware of the danger of the narrow, twisting Powerline Road when used by OHV drivers engaging in berm play and cutting shortcuts along the road. Many people use the Powerline Road (JF3330) for hiking and horseback riding. It has a long history of abuse by OHV traffic and its twists and turns all have numerous OHV shortcuts, some so wide that it makes it difficult to determine which is the "real" road. To date, there are no designated hiking paths; however, it seems all paths become abused by OHV riders. This includes the short 100 foot path to Arrastre Waterfall, and many cow paths and equestrian trails that crisscross the region. The historic Native American foot path to Deep Creek has also been severely degraded by OHV traffic. Cows make new paths each winter during their grazing season and in the spring and summer these are used by motorcycle riders. Many people visit the Juniper Flats area for quiet, for hunting and for watching wildlife. Noise from motor vehicles travels many miles through the area, especially when vehicles are speeding up steep hills. Target shooting and hunting are becoming dangerous issues for other visitors, especially because many people are heard and seen discharging weapons that are not shotguns. The Juniper Sub Region is a shot gun only area, but that is not being enforced, and safety is a concern.
1042	4. Areas and trails shall not be located in officially designated wilderness areas or primitive areas. Areas and trails shall be located in natural areas only if the authorized officer determines that vehicle use in such locations will not adversely affect their natural, esthetic, scenic, or other values for which such areas are established. "ACECs are an administrative designation made by the BLM through a land use plan". The management plan for the Juniper Flats ACEC (1988) included several routes through the area. Since then, miles of motorcycle trails have been created by rogue riders. Some of these trails are natural extensions of routes that abruptly terminate or join another route at 90 degrees. Others parallel designated roads. Will the BLM need to amend the ACEC management plan if new routes or uses are to be approved within the ACEC?
1055	the WEMO routes crossing through the Shadow Mountain Road neighborhood of Wonder Valley constitute an attractive nuisance.
1055	Unless BLM, either acting independently or in concert with local law enforcement, can demonstrate better control of the illegal and nuisance ORV activity generated by the TMA 3 routes located in the Wonder Valley community, they must either close the routes or limit use of same to street legal travel only.
1055	All BLM routes in the Morongo Basin adjacent to private property, wilderness areas and fragile habitat should be permanently closed. In addition, the BLM should erect physical barriers and disguise these routes with vertical mulching to discourage trespass. Routes that have been closed in the area near the Poste Homestead Natural and Historic Area are regularly breached by ORV riders who have demonstrated no respect for the closures. This area is in need of physical barriers on the west side of the adobe ruins and Chadwick Road should be closed to all ORVs.
1055	ORV routes should be eliminated on Gammel Road, along the Cleghorn Lakes and Sheephole Mountains Wilderness Areas and routes near the boundary of Joshua Tree National Park. Since the greatest biodiversity in the Mojave desert resides in washes and ephemeral waterways, and ORV activity has been shown to destroy vegetation and wildlife habitat and disturb desert soils, all routes in washes should be eliminated. In addition, all currently designated routes through the Morongo Basin that lead directly to into private property and therefore encourage trespass must be eliminated. These routes should never have been designated in the first place and are the result of a faulty computer-designed decision tree and the failure of the BLM to conduct ground-truthing investigations in these areas. The BLM should endeavor to avoid making the same mistakes that led to the current court order.
1084	RC 3329: This road should be closed it dead ends right at the salting area for my cows.
1084	RC 3343; There should be speed limit signs on this OHV Corridor 15MPH. For the safety of the cattle, horses and the rancher and his family. They should also post that this is a 4 mile road, 10 feet wide and the wilderness is closed to all vehicles. (They should really remove the signs they put up because people think they are open routes)
1097	I am writing to you to express my concern and dismay particularly with the establishment of Route WV 1948, that runs through my neighborhood an my community of Wonder Valley, California. This route runs directly across some major thoroughfares in my neighborhood Gammel and even more traveled daily by local residents, Godwin Rds. These are county maintained dirt roads.
1097	This is a recipe for disaster. There are many older residents in Wonder Valley that travel these roads to do their grocery

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	shopping etc. It will be a matter of time only in my opinion until somebody gets broadsided by a speeding dirt truck or off road vehicle racing down this newly established rout.
1103	Juniper Flats Subregion: The Crowder Formation (Reynolds et al, 1998), Phelan Peak Formation and the Old Woman Sandstone (Sadler, 1982; May and Repenning, 1982) in this area contain vertebrate fossils that describe the age of the sediments involved with timing of the tectonic uplift of the San Bernardino Mountains that reach 11,000 feet elevation. The existing BLM routes with the prefix of "JF" must be kept open for resource management purposes.
1103	Rattlesnake Canyon Subregion: The Pioneertown sandstones and basalt dikes and flows as old as 10 million years, (Neville, 1983; Neville et al, 1985; Reynolds and Kooser, 1986) assist with describing the timing of the tectonic uplift of the San Bernardino Mountains. BLM routes prefixed with "RC" must be kept open for resource management purposes.
1123	Map Name and Number - Rattlesnake Canyon Route# - Grid Location - Point of Interest - Comment Type - Open to vehicles? In brn-rd. terminates at my property - you want to maintain your access
1124	Subregion: Rattlesnake Canyon Route #: RC1430 Burns Canyon Roads Proj. Fund - Maintained by property owners but used by others causing increased maintenance costs
11S3	Map Name and Number - Johnson Valley/Rattlesnake Route# - RC3418, RC3435 Grid Location - South of Hwy 247 Point of Interest - Comment Type - Site specific Numbered routes feed into dirt roads in the community of Johnson Valley. Signage is needed - entering community roads "no outlet"
11S4	Map Name and Number - Coolgardie To make sure there are roads to access mining claims looking at map cannot locate through roads.
12S0	More specifically, the Mojave Group is very concerned about the Juniper Flats Sub Region and the great destruction which is taking place in that area. Since this is a transition area between the large population of the Victor Valley and the San Bernardino Mountains, there are a large variety of recreational uses taking place and not in a compatible manner. As other recreational areas are disappearing due to growth, more pressure is being placed on the Juniper Sub Region where illegal motorcycle use is rampant and illegal trails are appearing everywhere. Residents in the area and in adjacent Milpas Highlands are subjected to noise, dust, trespass and harassment.
126S	Route # - RC3343, RC3329 Site Specific Comment There should be a 15mph sign posted on this OHV corridor road for the safety of me and my family, my cattle and horses.
1268	Map Name and Number - Thomas Guide GPS Pg 4660 Route# - Van Dusen Canyon 2 Grid Location - Point of Interest - Comment Type - Site specific I use Van Dusen Canyon Rd. to 3N83 to access my claim Gold Digger III
1268	Map Name and Number - Thomas Guide GPS Map 390 Route# - Gold Crown Rd. Grid Location - Point of Interest - Comment Type - Site specific

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	I need to use Gold Crown Rd. off Route 62, 29 Palms to access my claim Blackjack Claim for placer mining purpose.
1271	TMA 3 WEMO travel management plan. I have resided in the community of Wonder Valley for over 30 year!? and have a long standing Interest in the welfare of the community as a resident, home owner, and business owner in that community. Since the Inception of the NEMO olanning process, I have observed a steady deterioration in residential quality of life and peaceful enjoyment both for myself and numerous neighbors. This can directly be attributed to the reckless disregard displayed by the BLM's Implementation of off - road recreation routes throughout our community coupled with a demonstrated inability to manage the adverse affects of the off road recreation being promoted and abetted by these routes.
1271	Three of the WEMO routes in my community cross Shadow Mountain Road. As a resident of the Shadow Mountain Road area I observe the previously described violations by non - street legal ORVs on a daily basis, and even more frequently during off road holiday riding periods. Given current management and enforcement practices, the WEMO routes crossing through the Shadow Mountain Road neighborhood of Wonder Valley constitute an attractive nuisance.
1282	Off-Road Vehicle routes have no place in this environment. They add noise and dust to a dust control area already out of compliance. They encourage trespass onto state and private parcels. Users of these routes often ride at excessive speed and nearly all of these routes cross or are crossed by multiple public roads with no signage. Current routes actually cross private parcels with no compensation to the landowners. Some routes border on wilderness areas encouraging ingress to these areas.
1282	The multiple and poorly marked routes in the adjacent Dale Mining district, combined with no BLM enforcement in this area, have resulted in large areas of the district looking far more like an off-road vehicle use area than it does a historic mining district. This heavy use in the mining district results in ORV activity overflow spilling into the lower basin generally reducing the quality of life for residents here.
1283	We do not want ORVs riding through our residential area making a lot of noise, stirring up dust and destroying our beautiful desert flora. Not only are they riding on private properties and roads illegally, but they tear up our roads that we pay to have maintained through our tax dollars.
1284	Since significant biodiversity in the Mojave desert resides in washes and ephemeral waterways, and ORY activity has been shown to destroy vegetation and wildlife habitat and disturb desert soils, all routes in washes should be eliminated.
1284	All BLM routes in the Morongo Basin adjacent to private property, wilderness areas and fragile habitat should be permanently closed. In addition, the BLM should erect physical barriers and disguise these routes with vertical mulching to discourage trespass. Routes that have been closed in the area near the Poste Homestead Natural and Historic Area are regularly breached by ORY riders who have demonstrated no respect for the closures. This area is in need of physical barriers to protect fragile dune resources on the west side of the adobe ruins. Chadwick Road may remain open to licensed vehicles but should be closed to all ORYs.
1284	ORY routes should be eliminated on Gammel Road, along the Cleghorn Lakes and Sheephole Mountains Wilderness Areas and routes near the boundary of Joshua Tree National Park.
1284	In addition, all currently designated routes through the Morongo Basin that lead directly to into private property and therefore encourage trespass must be eliminated. Specific routes include: Pipeline Road (AKA UK on WEMO Map #80, Chadwick Road, and Old Stage Route (AKA MP23S on WEMO Map #80). These routes should never have been designated in the first place and are the result of a faulty computer-designed decision tree, a violation of the BLM's own guidelines and FLPMA, as well as the failure ofthe BLM to conduct ground-truthing investigations in these areas. The BLM should endeavor to avoid making the same mistakes that led to the current court order.
1284	In addition, the BLM must install kiosks at the Fort Mojave, Chemehuevi and Colorado River Indian Tribes tribal lands in collaboration with representatives from those tribes. ORVs have been responsible for the destruction of tribal lands and

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	invaluable sacred sites on all three of these reservations.
1285	I live in the Wonder Valley and don't believe that off-road vehicles belong in our residential areas.
1288	Motorcycle trail plan being initiated in the Oak Springs, Grapevine area on USFS lands i. This may affect route network on BLM between Coxey truck trail and Grapevine Canyon roads in T3N, R2W, Sections 9-10 and 11. Issues with Balanced Rock mining claimant (active claim).
1288	Considerations for BLM TMA3 route network: Poor planning and coordination could lead to additional trespass issues on BLM. Also an opportunity because a well maintained network could help alleviate some of the pressure in the Deep Creek and JF ACEC and redirect motorcycle use further south and east on USFS lands.
1288	Specific route issues: i. 3384 and 3382, South of Castro's place and Deep Creek provide connection to an unauthorized network; ii. 335SM: via unauthorized connector to 3N59A in T3N, R2W, Sec 9; iii. 335S9M, just w. of 4N16 (Grapevine Canyon Rd) in T3N, R2W, Secs 11-12; iv. 321SM, a bit further east in T3N, R2W, Sec 12; v. Warm Springs Road, T3N, R3W, Secs 13-14; vi. RC3203: Close or limit access route depending on status of mining claim (active or inactive) in T3N, R2E, Sec 21. Check with Scott Aliason; vii. RC2217, T1N, R3E, Sec 22 to unauth. Shortcut route directly south in Sec 27 (official acess is Sec 22 to 23 to 26 to 27).
1291	Because of the many existing roads, questionable boundaries and general porosity of the area [Viscera Springs], the fences and rock barricades have created a dangerous situation. Two weeks ago I was driving on an open road and ended up trapped behind the fences and barricades. If I had not known the area well, it could have been possible that I would not have been able to find my way back out. [attached map]
1291	I am questioning the legitimacy of the closures occurring on the National Forest land. I am not questioning the legitimacy of the Bighorn Mountain Wilderness Area located on BlM land. During passage and implementation of the California Desert Protection Act in 1994, I paid close attention to the process, and to the best of my knowledge only the portion of this Wilderness Area located on BlM land was discussed or included on the maps. I have been in contact with both BlM and Forestry regarding this issue. Both agencies have stated that the Bighorn Mountain Wilderness Area was designated as part of the California Desert Protection Act of 1994. I have received maps from both agencies and some are in conflict. Map 23 (Attachment 1) from the California Desert Protection Act of 1994 does not show'the Viscera Springs area currently being closed is included in the Bighorn Mountain Wilderness Area. I have requested a legal map from the Forestry Service showing that the area around Viscera Springs was included in the Bighorn Mountain Wilderness as part of the Desert Protection Act of 1994. So far they have not been able to produce it. All the Forestry Service has been able to provide is a topographical map (Attachment 2) with no land marks or other identifiable locators on it. One thing that this map does show is that the area is flat, open and has many established roads that make it literally impossible to successfully close and enforce without putting a fence around the whole area.
1293	My husband and I drove through Joshua Tree National Park and out to Highway 62 on Old Dale Road over the weekend. A few miles from the north end of the road, we were surprised to see a huge encampment of off-roaders. We had been out there three weeks earlier, and never saw another vehicle. Do you know if this was some sort of permitted event? They had erected markers with the letters "FCM" along Gold Crown Road from Highway 62 to the encampment area. For miles, all the washes, trails and roads -- and a few places that were not washes or trails -- were hashed up with tire tracks. Little roads that a few weeks ago were 20 feet wide are now 40 feet wide and deeply churned. I was shocked at the extent of the change in the area. Based on our visit a few weeks ago, this is not a territory that had been heavily used by off-roaders. If this was a BLM-sanctioned event, I think the bureau should take a look at the damage that was done before allowing the group to hold another event on BLM land. If it was not a sanctioned event, then I would guess it should be a law-enforcement matter. Or perhaps that area is designated for ORV recreation? The area I'm talking about is about 12 miles east of Twenynine Palms, then south off Gold Crown Road, which connects with Old Dale Road. The encampment was in the Pinto Mountains about 6 or 7 miles south of Highway 62 and several miles northwest of the

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	national park boundary.
1294	Was wondering specifically which roads will be the topics at the Barstow meeting any are being considered for closure? I am an equestrian, and mainly ride on trails, but also on occasion need to ride roads to get to where I'm going, so there's some concern about possible closures. We're south of the Bighorn range, and east of Big Bear in the high desert.
Travel Management Area 4	
1004	I support the Jawbone store Plan to have trails for ATV and motorcycles maintained and expanded. Please give consideration to these off road vehicles and needed trail system.
1008	We also support the Jawbone Canyon Store Trail System
1018	Jawbone Canyon Store Trail System will help with a quality riding experience for above average riders
1032	I urge you to re-open these green sticker off-road routes to the mountains to once again restore the lost luster and relieve the punishment to our much needed everyday street vehicles, and to allow the traditional, adventurous, and challenging passageways we have long enjoyed on our way into the mountains from Jawbone Canyon.
1040	we Foxes wish to express our support for the Jawbone Canyon Store and their very rider friendly Trail System.
1049	Opening existing, but currently closed, trails in the Jawbone/Butterbredt/Dove Springs areas area and designating them as "Motorcycle Only" would provide a place for those who ride motorcycles without the concern of encountering large 4-wheel vehicles.
1050	Reopen the St. John's Ridge trail. Currently the only legal off-road route into the Piutes from Kelso Valley is by using using the Bright Star Wilderness corrider trail. Reopening the St. John's Ridge trail would provide a method creating a loop. Additional trails would need to be available to access the St. John's Ridge trailhead off of Kelso Valley Road from SC123.
1058	BLM should consider permanent closures around sensitive raptor habitat in the Jawbone-Butterbredt ACEC, especially around Robber's Roost. The current, temporary closures do not appear to deter people from visiting the area during the nesting season. Permanent closure of routes in the vicinity may prove more effective at protecting this habitat. BLM should also reevaluate routes in the Jawbone-Butterbredt ACEC for proximity to tortoise burrows. Several have been spotted, especially in the northern portion of the ACEC.
1061	Scott Spencer asked me to email the attached FINAL draft of the Jawbone Canyon Store Trail System Proposal Introduction pages dated April 6, 2012 to replace the previous introduction pages you received. This final version has been updated to emphasize crucial points of interest and applicable substantive comments about the proposal as well as the request to include this final draft of the document in the public record. Please note the addition of organizations signed-on in support of this proposal including Stewards of the Sequoia (Chris Horgan – Executive Director) and the Bakersfield Trailblazers (Richard Gauthier - President). The second attachment in this email contains the downloadable GPS tracks (Garmin Data Base) displayed in the proposal and specifically requested by Mr. Beck in a separate email. This email will be followed by the mailing of an additional complete paper copy of the proposal FINAL draft and two electronic copies (DVDs) that also contain the downloadable GPS tracks.
1065	This comment is with regard to the ongoing illegal ingress by motorcycles into the Burring Moscow Spring drainage. At present, OHVs converge into this sensitive area from Kelso Valley Road via at least three places and a fourth from Puite Mtn road near tunnel Spring. Restrictive signs and barriers are regularly destroyed and overrun to gain ingress. In my view legitimizing these trails into the Puite Mtns. is not the solution since usage would increase 10-fold and certainly bring a new illegal incursions. The Puite Mountains are a delicate and fragile ecosystem which over the past 10 years have suffered at least four major fires...it would be a seruios error in judgement if this illegal trail is sanctioned by the Bureau of Land Management for addition to the Western Mojave OHV Trail System.
1077	Yes I support recreation in Jawbone Cyn.! Do not close it. By doing so, you are removing freedom from our country.
1078	I support the Jawbone Canyon Store Trail System as the existing system does not work well with all residents
1099	I am writing you to express my wholehearted support for the addition of single-track and/or small vehicle trails as outlined in the "Jawbone Canyon Store Trail System"
1101	With regard specifically to the Middle Knob Subregion. all the checkerboard BLM parcels in the Tehachapi Mountains mustbe officially dosed. Native American artifacts and sites have been destroyed by illegal off-road vehicle riders in the general area known as "Bean Canyon". The Southern Tehachapi Mountains have suffered unnecessary and undue degradation as a result of relentless, unchecked dirt bike activity.

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1101	I enlisted the help of a colleague to help with the map information, and her response is pasted below. Also I attached a detailed map which includes BLM Middle Knob sections; this map should make it simple for you to understand the locations of the illegal OHV trespass, and how these neglected, unpatrolled parcels serve as a gateway to illegal dirt bike joyriding on the Pacific Crest Trail. The BLM parcels are peach colored and CalPortland Cement, which is a large private company, is colored in blue. You can compare this detailed map with BLM's Middle Knob map to view the sections with more clarity. There is not one BLM parcel that has not sustained breathtaking damage by off-road vehicles. An attached photo shows dirt bike damage (whoop-dee-doos) on the PCT in Section 2. Multiply this photo by 100 and you get a mental image of miles of Pacific Crest trail in the Middle Knob region and beyond. When you access the Google Earth map of Bean Canyon, you will be able to zoom into areas to view the Middle Knob area and the also the Pacific Crest Trail.
1101	The dirt bike damage to BLM in the photos you sent are on BLM from where dirt bikers ride up to the PCT just north from that photo....This area of destruction in particular is all in Township 10N, Range 14W, SBBM, and leads up into Township 11N, Range 14W, SBBM. This .kmz doesn't show Section numbers for Bean Canyon, but they are in the following Sections: (they can compare what they were sent and find the same area I've marked on the .kmz file that opens in Google Earth, that area seems to be changing a lot, but the hill-climbs are the same, they are quite obvious: Section 2= BLM with dirt bike destruction to Pacific Crest Trail. Section 4= Most is BLM, CP Cement & a few private property owners. Section 5= Calportland Section 8= BLM with dirt bike damage to resources. Sections 10=BLM with significant dirt bike damage to resources and PCT. Section 29= CalPortland Section 30= majority is BLM, with PCT damage by dirt bikes Section 31= CalPortland Section 32= majority is BLM, with OHV destruction throughout. Section 33= CalPortland
1102	i support the jawbone canyon store trail system.
1104	Map or Subregion Name and Number: Jawbone/Dove Springs/Butterbredt Comment: Existing dirt road/trail systems fail to provide a quality riding experience for small 4-wheel & 2-wheel riders that only single track and narrow track trails can bring. Groomed dirt roads attract large vehicles capable of high speed creating unsafe conditions.
1105	Map or Subregion Name and Number: Butterbredt Area Route #: Trail 28 What is the issue/concern/opportunity: The Opening of butterbredt Peak and surrounding/connecting trail system. Trail 28 has an extremely high valued trail traversing the best ridgeline terrain and viewpoints of the entire trail system.
1108	Opening public access to more public lands in the area of Jawbone Canyon. Please allow safer travel of smaller two-wheeled vehicles by opening and reopening access to single track trails in and around the area.
1136	Ever since Jawbone and the Friends of Jawbone started putting up fences, which were paid for out of the green sticker funds, I have stopped going there due to the danger factor of putting all users onto the same "roads". In order to promote a safe and enjoyable outdoor experience for everyone, adding existing narrow trails into the legal system seems like a no brainer. Less traffic, safer and varied experiences will add up to a logically better alternative that what is currently in place.....
1163	On Kelso Valley Road, Piute Mtn. Road, and St. John Ridge, there is a triangle of unauthorized routes.
1166	I support the Jawbone Canyon Store trail plan.
1166	Closure of trails and kid tracks by campsites. Reopening of single trails and use of kid tracks in camp. It would be great to have an all open area like Jawbone & Dove Springs, for the light green area on the Friends of Jawbone OHV map.
1171	We all support the Jawbone Canyon Stone Trail System
1175	Map or Number - Jawbone Canyon I support a trail system that links Jawbone Canyon with Red Rock Dove Springs area so to avoid the Dangerous wide fenced in dirt roads that the area is restricted to now.
1176	Map or Number - Jawbone/Dove Springs

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	More trails in the Jawbone/Dove Springs area re-open the 64 proposed trails provides a more scenic and safe riding opportunity for me and my family
1177	Map or Number - Jawbone/Dove Springs Please restore as much of the existing trail system within the limited use area as possible for safety as well as enjoyment.
1178	Map or Number - Jawbone/Dove Springs We support the Jawbone store trail system
1179	Map or Number - Jawbone/Dove Springs We support the Jawbone store trail system
1180	Map or Number - Jawbone/Dove Springs Keeping the area open to motorcycling. Est. some single-track trails that would be open to hikers, cyclists, and horseback.
1181	Map or Number - Jawbone/Dove Springs We support the Jawbone store trail system
1182	Map or Number - Jawbone/Dove Springs Open space is too small - Open more single track trails.
1183	I would like to see more single track in the Jawbone Area.
1185	We support the Jawbone Canyon Store Trail System
1186	We support the Jawbone Canyon Store Trail System
1187	Please remove fences blocking areas to trails in and around Jawwbone OHV area.
1189	we have compiled a comprehensive plan for Jawbone Canyon... [see attached maps]
1191	We support the Jawbone Canyon Store Trail System
1193	I think you should start opening the trails again, I support the Jawbone Canyon Store Trail System
1194	We support the Jawbone Canyon Store Trail System
1195	We support the Jawbone Canyon Store Trail System
1196	We support the Jawbone Canyon Store Trail System
1209	We support more trails in Jawbone
1210	I support more trails in Jawbone initiative
1216	I would like to support the Jawbone Store Trail System proposal
1217	I support the Jawbone Store Trail System proposal
1218	I support the Jawbone Store Trail System
1219	I support this trail plan for the Jawbone Canyon area
1223	I would like to see more singletrack re-opened
1224	I would like to see more trails open
1226	I support this trail system in the jawbone area
1228	open the closed trails
1229	open up more riding area
1230	I support Jawbone Canyon Store trail system - open trail
1231	I support jawbone cyn store trail system
1232	I am fully supportive of the jawbone stor trail system
1233	I support the jawbone store trail system
1234	I support the Jawbone Canyon Store Trail System.
1235	Please support jawbone canyon store trail system
1236	I support Jawbone Canyon Store Trail System
1241	Route # CC10 - Keep a good trail between Cal City and the Jawbone store. Fix the Railroad track crossing at CC10.
1243	We support the Jawbone Canyon Store Trail System
1244	We support the Jawbone Canyon Store Trail System
1245	We support the Jawbone Canyon Store Trail System
1246	We support the Jawbone Canyon Store Trail System
1248	Region: Jawbone Grid Location: 230328 no CN in T30SR36E Sec, 34 and 28 1220S73 894314 Sec. 22 and 14 back into open area

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	Would like to keep open a very beautiful route from MK 66 to 5C2 through Jawbone Wash. See attached map.
1256	Route should be open for access XB-70 memorial [Attached Map; Coolgardle]
1256	Map or Name - Middle Knob Map 1 Route # - MK13-MK15 Grid Location - Comment Type - Site Specific This route was missing on the 2001 WEMO survey. This single track connects MK15 with MK13 and is a trail that goes from the creek bottom to Sweetridge and supplies a loop to dead end routes. [Middle Knob Map 1 attached] In the 2002 WEMO survey, the motorcycles did not survey these routes. We would have added these routes to the inventory. This is a scrub pine plateau with rounded mounds, a couple of old mines and uphill trail ti the top of cross mtn.
1256	Map or Name - Middle Knob Map 1 Route # - MK57 Grid Location - Comment Type - Site Specific This route was missing on the 2001 WEMO survey. This is a heavily travelled road and organized events occur on it. 3 lateral trails allow access to the route from the valley floor. MK42, MK22, MK23L
Travel Management Area 5	
1001	Kramer Junction CN 133409, 132919, 133338, 135870, 134335, 135749, 135822 - routes not designated. Searchers request routes remain open for access to rockhounding areas.
1001	Calico Mountains Mule Mountain road - numerous opportunities for rockhounding along entire length, Searchers would like to keep or designate open for these opportunities. C 10224422,1024425,1024430,1024432,1024434,1024435, 1024482, 1024496, 1025222, 1025225, 1025228, 1025233, 1025234, 1025247, 1025346, 1025349, 1025354, 1025353, 1025354, 1025355, 1027221, 1027223, 1027226, I 119824, I 119842, 1119854, II 19857, I I 19880, I I 19885 - access to sagenite area. Serchers request routes be designated open for access to rockhounding area. CN 1350 156-7 - Searchers would like CM7606 is extended to CM7330 and opened for access to rockhounding areas. CN 1248587-8 - route to mine area - Searchers request this become an open route to allow access to rockhounding area. ObjectiD 1248604 - same CNI032149, 1032150, 1105436, 1105437, 1105441, 1024652 - CM7632 and CM7634 - AKA Tin Can alleySearchers request this remain open for access to rockhounding. Rock-crawling also occurs in this area. CN 1350 159 - Searchers request this become an open route for access to rockhounding. CN960784, 1033275, 1033279, 1033281, 1250157 - Searchers request that these routes be designated open for access to rockhounding areas. CN I034491 - CM7340 - Searchers request that this route remains open for rockhounding areas.
1001	Black Mountain/Black Canyon/Opal Mountain CN 1148133, 1148142 - Access to Opal Mountain rockhounding areas. Request to designate these roads as open. CN214093, 214286, 1148132, I 148134-8 - North of Black Mountain Wilderness - all undesignated routes (except for BM6265 and BM7153). Searchers request that these become designated open for access to rockhounding areas. ObjectID (CroneSO Lake Subregion not completed at time of this comment) 1300966, 1316565-7, 1316569-70, 1316958, 1316997-9, 1332175-6, 1332181-200, and CN 1141681 (CL8315, CL8332) - roads running through unnamed hills provide access to rockhounding areas. Searchers request they be designated open for this access.
1001	Coyote Dry Lake CN I075926, 1075947-9, 1075984 (CM8103 and CM8111) - Searchers request these routes remain open for rock collecting. Would like 1075984 to become an extension ofCM8111 open all the way to the rock collecting area beside it.
1068	Map or Subregion Name and Number: Cronese Lake Subregion Route #'s: CR 8304, CR 8315, CR 8323, CR 8331, CR 8335, CR 8337, CR 8339, CR 8344, CR 8345, CR 8352, CR 8806, CR 8819, CR 8830, CR 8837, CR 8847, CR 8849 Route-Specific Comment: This is a request to keep the above named roads open to vehicle travel... in order to has access to the perimeter of the Cronese Proposed Wilderness area. This area provides the opportunity to view various types of desert flora and fauna and should be given access by way of existing BLM routes...to keep access open to stage for day hikes

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	into the proposed wilderness.
1073	Map or Subregion Name and Number: Cronese Lake Subregion Route#: C4039 What is the Issue/Concern/Opportunity: Parking for the walk to the Soda Mountain's Peak. Enclosed are photos from the peak for dramatic effect!! The WEMO plan shows C4039 closed near the Wilderness Study Area boundary at a point very near and in full view of the freeway. Allowing travel on the closed portion (Approx. 1300ft) would dramatically enhance the walk to the peak because the last portion tucks behind a small hill. Being out of view will create a better and much safer experience for hikers. Also, the entire mouth of the wash is already disturbed from roads and there are many mining trenches.
1148	Map: Black Mtn Detail Route #: BM 71S4 Keep open - Unique 4 wheel drive loop
12S5	This correspondence is to request retaining OPEN status in paleontological areas of areas managed by the Bureau of Land Management in the Western Mojave Planning Area (WMOA). Coolgardie Subregion: This includes the Mud Hills which have been a prime paleontological and geological resource for over 100 years, and continue to be important relative to the ongoing chronological data available (paleontological fossils, volcanic ashes, and paleomagnetic measurements).
12S6	Wash should continue to route BM6370. Route BM 6362 should continue to route BM6383. No names on Routes like Bird Springs Wash or Hamburger Mill. These routes provide a loop that connects, other open routes. [Attached map; Black Mountain]
1264	Map or Subregion Name and Number: Cronese Lake Subregion Route#'s: CR 8304, CR8315, CR8323, CR 8331, CR 8335, CR 8337, CR 8339, CR 8334, .PR 834S, CR 83SL,CR 88()~-CR-8819;eR 883tr,CR1383r,--eR-8847tCR 884a What is the Issue/Concern/Opportunity? The Palos Verdes Gem & Mineral Society is a non-profit california corporation who~ primary objective is the promotion of the study of gems, minerals, and fossils. We are a member of the california and American Federations of Gem and Mineral Societies. We enjoy exploring, photographing, and sometimes camping in the Mojave De~rt. Many of our members are Senior Citizens who enjoy the outdoors, but are not able to walk great dls~nces. Therefore, for many of us to experience the natural beauty of the Mojave De~rt, it is necessary to have 4WD access to certain areas. The Routes shown above are of immediate concern to us. We have enjoyed 4WD trips to the~ areas in the past, and we hope that they can remain open.
1267	We are still waiting for more information about the status of route BM6362, but would like to the take the opportunity to officially submit a request that this route be closed during the route designation process if it is currently open. If the route is open, it wi ll lead riders to trespass through a large parcel of private property specifically acquired and managed to provide habitat for multiple sensitive species. If the route is closed, we request that any signs along the route clearly indicate that it is closed.
1268	Map Name and Number - Thomas Guide GPS Map 349 Route# - Coolgarde Rd. Grid Location - Point of Interest - Comment Type - Site specific I use Copper City Rd. to Coolgarde Rd. to get my claim Red Dog.
1289	Specifically, we are aware of areas on Coolgardie Mesa and north of the Minneola Road Exit from Interstate 1S where unauthorized off-road vehicle use is degrading habitat.
1292	Here in the Tehachapi Mountains of Kern County, there has been a tremendous amount of effo rt expended to protect private property, businesses, and our nat ional heritage, the Pacific Crest Trail, from ongoing destruction by illegal off-road vehicles.Ground truthing expeditions of this area in question, along with perusal of maps, show that the checkerboard BLM parcels which are currently being savaged by rogue riders are within WEMO boundaries. There has been no protection of these parcels by BLM law enforcement personnel for a number of reasons, one of which

Table C-2. Scoping Comments by Comment Category

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	is largely due to the paucity of enforcement officers available. This is unfortunate, because these lands are a draw for illegal riders who joy ride on the Pacific Crest T rail and trespass onto private posted properties.
Travel Management Area 6	
1002	In 2010, numerous presumably unauthorized routes were noted on public lands encompassing Point of Rocks, specifically adjacent to the historic Mojave Trail. Significant erosion, vegetation and scenic value impacts were noted. In the adjacent Mojave Fishhook Cactus ACEC, not a single interpretive or open route sign, or fencing were detected. Extensive, recent unauthorized vehicle travel was noted throughout the ACEC.
1002	The BLM sensitive Barstow woolly sunflower (Eriophyllum mohavense) is also potentially at risk from vehicle use/parking and vehicle-based camping in the Fremont 5ubregion.
1002	A similar situation of uncontrolled vehicle use also occurs on MUC U public lands along the Bryman Bluffs south of Helendale, overlooking the Mojave River and abutting the southern edge of the Kramer Subregion. Both the threatened desert tortoise and Mohave ground squirrel are known to occur on these lands, which are highly visible from National Trails Highway. In 2010, numerous routes and vehicle play activities were noted on these public lands, along with extensive erosion, vegetation and scenic resource impacts.
1096	My main interest is in the Edwards Bowl region. My feeling is that if riders could not legally stage their vehicles at the Edwards Bowl, it would contribute to the preservation of the desert's natural values including habitat for the Desert Tortoise and Mojave Ground 5quirrel, in addition to protecting the rights of neighboring residents to live free of the nuisance of offroad recreation behaviors.
1096	At one point I had a conversation with Barstow Field Office Chief Roxy Trost in which she suggested that the Edwards Bowl area might be "closed to camping". If the routes mentioned above are indeed left OPEN to OHV use, another way of dealing with the problem of scofflaw riders might be to invoke the "closed to camping" restriction so that riders could not stage there.
1144	My feeling is that if riders could not legally stage their vehicles at the Edwards Bowl, it would contribute to the preservation of the desert's natural values including habitat for the Desert Tortoise and Mojave Ground 5quirrel, in addition to protecting the rights of neighboring residents to live free of the nuisance of off-road recreation behaviors... The routes which I refer to above are EM 2050 and EM2090. These are the only access routes into the Edwards Bowl from Buckthorn Canyon Road which is the principal thoroughfare crossing the area. On the WEMO maps made available to me these are shown as closed routes, but they are signed OPEN and riders habitually use these routes to enter and exit the Edwards Bowl area.
1163	El Mirage OHV area was created by joint efforts of two counts, BIM and the OHMVR Division. When the fencing was done, it was with understanding that we would have some gates for connectivity of existing routes outside the fenced areas. This has not been accomplished. Maps of the region need to be looked at and decided upon which designated route can accommodate a gate for the public to have a long distance experience, rather than have to get on El Mirage Road or go on to undesignated routes.
1251	THC manages its properties according to a specific charter and certain conservation easements held by California Department of Fish and Game (CA DFG), we are concerned about routes which may direct vehicle travel and associated activities to our private properties. CA DFG has a vested interest in protecting these properties in perpetuity as they funded the acquisition of the properties we own in the DWMA, as well as restoration and management of these properties we are undertaking now. While we recognize some routes on public lands occurring proximal to our properties may be necessary for our own access, as well as general public land access, we believe that vehicle use on many public land routes which do not end at our property boundaries may be detrimental to our properties.
1256	Fremont Peak and Gravel Hills are a major recreational area and should be set aside for that purpose...
1256	A-Unumbered route - bypasses Barstow Wooly Sunflower area from Kramer Junction to Harper Peak, B-Connect FP5324 to FP5261, C-Jeep Road, Cleaner route north to FP5261, D-Completes route from Harper Peak to Haburger Hill, E-Good reason why you need red closed signs. [Attached map; West Mojave]

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1256	Map or name - Iron Mountain Route#: IM6436, 64378, 6445 These routes used on dual sports events should be motorcycles only. To keep routes open for motorcycle dual sport events poute has previously been used for sanctioned dual sport events. [Iron Mtn. map attached]
1256	Map or name - Kramer Hills Map 1 Show these routes as "open" when they are actually motorcycle only. [attached map]
1256	Map or name - Kramer Hills Map 2 Show these routes as "open" when they are actually motorcycle only. [attached map]
Travel Management Area 7	
1001	South of Inyokern El Paso Mountains CN946377-79 - EP26 - Searchers request these remain open for access to rockhounding
1001	Castle Butte No C number - routes going through the section directly south of Castle Bune T325 R38E MDM, Section 34, and directly east, sec 26 are not designated but would be necessary to be open in order to access the Bune, which is in a private section in a checkerboard area.
1001	Last Chance Canyon CN9465 15,946519,947546,947547,947548,947551-3, 947555-7, 947618, 947620, 948436, 948437, 955732, 947622-4,954932,955733-4 - part of which is EP 15 - Searchers request routes remain open for access to rockhounding areas
1003	My concern is that the northwest section of EP499 is not only in an ACEC, but it is on top of a mesa with very high aesthetic values, very valuable resources and virtually no way of monitoring off route travel. I hike this area regularly and am disturbed by the proliferation of tire tracks off route. Additionally, at the eastern end of the mesa, where the route descends to the south towards EP30, the route is virtually non-existent, as there are no readily identifiable marks on the ground. I made this comment because I wish the WEMO subgroup and the BLM to consider closing the section of EP499 above EP101, as well as closing the eastern-most section of EP468 that goes up to the mesa
1005	The Spangler area should be expanded to include 'C' routes. There have been many losses to OHV opportunities around the state, including Christmas Canyon, Clear Creek, and the possibility of a diminishing of opportunities in Johnson Valley. To relieve the pressure and meet the need of the recreating public, the expansion of the Spangler OHV Area is sorely needed.
1005	Certain regions of the CDCA, but specifically the El Paso region should be designated as a ?Special Management OHV Area? and all trails managed as open to travel.
1005	There are two routes in the Rand mountains, R5 and R50 that had been closed due to compliance issues. Since those issues have now been fixed by extensive fencing, those routes should be reopened, and an educational process through signing, mapping and the release of information to the public needs to be adopted.
1016	Roads R5 and R50 which have been fenced to prevent inadvertent trespass in the Rands (the tortoise area) need to be designated open to vehicle travel. There is no longer any reason for them to remain closed.
1021	C routes area should be included to expand the Spangler area due to loss of Christmas canyon, and losses of Clear creak, JV and other possible losses due to wilderness re-designation
1021	R5 and R50 in the Rands should be re opened, they were closed due to compliance issues, those were fixed via fencing, there is no reason they should be closed, they are major connecting routes between Cal City, Randsburg, Spanglers and El Pasos, Those closures are putting too much traffic and pressure on routes such as R43
1027	The Spangler area should be expanded to include "C" routes. There have been many losses to OHV opportunities around the state, including Christmas Canyon, Clear Creek, and the possibility of a diminishing of opportunities in Johnson Valley. To relieve the pressure and meet the need of the recreating public, the expansion of the Spangler OHV Area is sorely needed.
1027	There are two routes in the Rand mountains, R5 and R50 that had been closed due to compliance issues. Since those issues have now been fixed by extensive fencing, those routes should be reopened, and an educational process through signing, mapping and the release of information to the public needs to be adopted.
1027	Certain regions of the CDCA, but specifically the El Paso region should be designated as a "Special

Table C-2. Scoping Comments by Comment Category

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	Management OHV Area" and all trails managed as open to travel.
1038	Upper Bonanza Gulch is where Hatfield the Rainmaker set up his camp. Many other historical sites are in Bonanza Gulch, (CB Jones' dug out shelter and CB Jones' shaft) along the road following the small tributary stream on the El Nino mining claim. This the same road which traverses the mesa from Mesa Springs to Bonanza Gulch and is used by equestrian endurance racers. This road is also necessary for me to access the far North east end of my claim.
1043	i am particularly interested in the roads which leda from EP0222 west ttword the mountain. These roads dead end at the foot of the mountain and are used for target practice with high power rifles. People used to set out chairs and tablesto shoot from. It was not practle to carry all this stuff in from from EP0222 to the shooting area. Now people will shoot from EP0222 which is not as safe.
1051	I hope these routes will remain open for the following reasons: The Joshua trees in the Coso range along the Cactus Flat Rd and routes 5E 858, 5E 756, etc. and down towards Haiwee Reservoir are abundant and wonderful to drive and hike through. The vista of the lake and alkaline hillsides we think are unique. Also the Cactus Flat area is usually quiet and expansive with few visitors making it a special area to experience by vehicle.
1051	EP101. This route today runs all the way up the hillside and back down on the eastern side to connect with EP 30. The WEMO map does not continue the route on the eastern side and we think it should as this is the easier way to take this route, from the east. The EP101 route passes near the spring, close enough for us to maintain the small cistern and plumbing with overflow for native animals which Walt put in years ago. The archeological site nearby consists of mutates and grinding areas off the current roadway by several hundred feet. EP 499 passes through Bonanza Gulch alongside several public cabins which are good shelters from the elements for overnight campers. The route today goes alongside the eastern side of Bonanza Gulch and up over the mesa, dropping down into EP30. This is a nice loop road which we've taken many times, with the views southwestward extending to Tehachapi. EP 15, EP 30, EP 100, EP 26, and the hill-climb routes such as EP 136, 195 and EP 194 are great for vistas. Goler narrows EP 146, Benson Gulch and Iron Canyon are great areas to 4wd. Hopefully most of the routes shown in blue for the El Pasos can be kept open
1058	BLM should keep the former West Rands ACEC closed to motorized used. This area is recovering from years of OHV abuse and should be allowed to continue to recover since it is critical tortoise habitat. Outside of the West Rands ACEC, the route network should stay the same or have fewer routes through areas that are suitable tortoise habitat. Especially in the West Rands ACEC, some of the routes have active tortoise burrows within 20 feet of them. Routes such as these should be reevaluated by qualified biologists as to their suitability for motorized recreation.
1067	My wife, Romelle, and I have been horseback riding in the El Paso sub region for the past 30 years. Many of these rides are group rides that have up to 12 other equestrians. Access is needed for vehicles to transport the horses, feed and water as well as places to camp.
1079	I am part owner along with about three other people on a gold claim in Bonanza Gulch. Our main access road is EP 15. I do not think this road or any other main access roads should be closed.
1080	please do not close EP 15, our main access road, not only do we prospect for gold but we also go to have fun and enjoy each others company. I have many fond memories of the times we have had there and would be terrible not to be able to go back anymore.
1089	El Paso region should be designated as "Special management" all existing trails, including single track should be managed as Open weather signed open or not.
1089	C routes area should be included to expand the Spangler area due to loss of Christmas canyon, and losses of Clear creak, JV and other possible losses due to wilderness re-designation.
1089	The Spangler open area should be expanded East of HWY 395, Down to RM1444 and the boundary area of Golden valley wilderness
1089	R5 and R50 in the Rands should be re opened, they were closed due to compliance issues, those were fixed via fencing, there is no reason they should be closed, they are major connecting routes between Cal City, Randsburg, Spanglers and El Pasos, Those closures are putting too much traffic and pressure on routes such as R43
1125	Map: El Paso Detail Map zone 34 and 35 Route #: EP0222 Grid Location: 35/34 Point of Interest: Hillside, 4 roads to old SP RR road bed Lack of accomodation for elderly shooters and hunters under the Americans with Disabilities Act by closing or blocking the (4) roads to this 60+ year well established shooting area
1128	Maps: Rands Detail Map 1

Table C-2. Scoping Comments by Comment Category

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	Allow a manageable single track trail system on the west side of the Rands that reduces illegal single track.
1128	Currently the trails that are numbered go up a canyon and get so steep that riders have to turn around. There is a need for mid slope trail that is above the 44 trail but below the 30 trail and runs mid slope parallel to the Rand Mountains
1129	Map: El Paso Detail Map zone 34 and 35 Route #: EP0222 Grid Location: 35/34 Point of Interest: Hillside, 4 roads to old SP RR road bed The Hillside supporting the SP Railroad track bed is an established target shooting and bird hunting area. Blocking the 4 roads leading to the hillside from EP0222 eliminating access to this area for shooters and hunters.
1129	Map: El Paso Detail Map zone 34 and 3S Route #: EP0222 Grid Location: 3S/34 Point of Interest: Hillside, 4 roads to old SP RR road bed Many of the shooters are elderly, and carrying equipment to the sites against the hillside would be impossible and would be a hardship for seniors or anyone else. Closing the above mentioned existing access roads is a violation of the americans with disabilities act
1130	Map: Section 27, T 29S, R40E Mnt. Diablo Route #: R66 Grid Location: H-12 Closure of R-66 between R-110 and Goler Rd. R-66 goes through the middle of our current mining claims of which SBM has commercial placer mining operations. R-66 open is dangerous to OHVs, riders, offroaders, and SBM personnel. See attached maps. One quarter mile NE of R-66 is R-44. Riders/OHVs can traverse from R-110 to Goler Rd. via R-44. After closure of R-66 to the public, SBM will maintain and continue to use R-66 as we currently do.
1131	Map: El Paso Detail Map zone 34 and 3S Route #: EP0222 Grid Location: 3S/34 Point of Interest: Hillside, 4 roads to old SP RR road bed The mountainside supporting the SP Railroad track bed is an established target shooting and bird hunting area. Block the 4 roads leading to the hillside from EP0222 eliminated access to this area for shooters and hunters...Road EP 0222 (and EP82) should lead to 4 existing roads that allow motorized vehicle access to the above mentioned hillside so that shooters can unload equipment such as benchrests, coolsers, chairs and target sun shades, clay pigeon...Block access to motor vehicles means that shooters must walk a distance of as much as a half mile to participate in this activity. Many of the shooters are elderly, and carrying equipment to the sites against the hillside would be impossible and would be a hardship for seniors or anyone else.
1133	El Paso Subregion. All of us use these roads to access the desert for taking pictures of wildlife, plants, as well as views of the desret. We go looking for rocks and minerals and use these roads to visit historical places too. Like Bickle Camp and the depression minning area. The Burro Schmidt Tunnel and more! These roads: EP45,1S, & 40; Last Chance Canyon Road EP41, 45, 15, & 40; and Bonanza Gulch Road EP41, 45, & 30 are just 3 roads use often by many of us. PLEASE keep these roads in working order.
1145	Subregion: El Paso Point of Interest: Star Party Site Need access to site that has hosted public star parties since 1979. See attached Map.
1152	Route #: EP429, EP05, EP144, EP4 Grid Location: 14, 1S, 22 I would like to keep these areas open because of family memories of the last 50 years
1157	There is an existing motorcycle trail going over Red Mt. connecting RM 108 to L ' RM 189. This trail was used by several motorcycle Enduros in the 70's. Due to the total lack of single track trails, this existing route should be designated Open to motorcycles. 2) There is an existing motorcycle trail that connects RM 104 to RM 15S5. Due to the total lack of single track trails, this existing route should be designated Open

Table C-2. Scoping Comments by Comment Category

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	to motorcycles. 3) This route shows open on the original WEMO map and now that RM 4 is marked but dead ends in the mountains, users have started using this old road. Due to the total lack of single track trails, this existing route should be designated Open to motorcycles. 4) This is the main connector for full width vehicles coming north on RM 199 to get to RM1444. It should be designated open
1157	Map or Subregion Name and Number: El Paso Map 1 What is the Issue/Concern/Opportunity? See attached map for locations. There is total lack of single track trails on BLM lands. Many miles of user developed single tracks now exist in the El Paso Mts. All of these trails should be evaluated for potential designation as Open to Motorcycles on£]
1157	Map or Subregion Name and Number: Red Mt Map 2 What is the Issue/Concern/Opportunity? See attached map for locations. 1) This is an extension of RM 68 and is a main flat motorhome route to access camping areas south of Cuddyback Dry Lake_It parallels RM 273 and RM 32 which are old race courses with whoop-de-doos making them not passable by motorhomes. It should be designated open_]
1157	What is the Issue/Concern/Opportunity? See attached map for locations. 1) RC 3 should continue along the ridgeline, cross RC 8 and connect with RC 6f7. 2) There is a side hill single track between RC 16 and RC 27. Because of the total lack of designated single track this route should be designated open to motorcycles. 3) There is a trail in a canyon between RC 17 and RC 19 that is only passable to motorcycles. Because of the total lack of designated single track this route should be designated open to motorcycles
1163	1 am asking that this R50 and R5 be opened immediately as it is still fenced, there is no off route travel.
1163	I am also asking that the remaining trails inside of the West Rands be placed on special permit to be accessed on a very controlled basis with a required simple permit for guided tour or educational purposes. The trails in questions are R40, R15, R25, R35, R48, R13, and R37. R37: We no longer need to start from R43, that hill can remain closed. R35: Starts at R5O, and at the top of the hill joins R37; could be changed to R35 all the way out the gate and to Randsburg Mojave Road. R12: This could be started from R48 heading north and just before the fence on R43, and make a new loop trail back up to R35. All the rest should remain the same.
1247	Single Track desperately needed
1256	El Paso Map 1 Comment: Continuation of santioned dual sport event route (see Ridgecrest Map 1) El Paso Map 2 Comment: Continuation of santioned dual sport event route (see El Paso Map 1)
1256	Map or Name - Ridgecrest Map 1 Route # - Grid Location - Comment Type - Site Specific This is a route used by permitted dual sport events. This area should be returned to the open area to compensate for losing area to the xmas cyn. ACEC. [Ridgecrest map attached]
1256	Map or Name - Ridgecrest Map 2 Route # - Grid Location - Comment Type - Site Specific This is a route used by permitted dual sport events. A protion of the summits should be returned to open area. Suggest adding a competition crossing to the navy road. The summits were not returned after the intermin closure because it was thought it was 500 yards from a duma when it was 1.5 mi away. [Ridgecrest map attached]

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1256	Map or Name - Red Mountain 1 To make the transition from RM2313 to RM3102 smoother.
1262	I have an injury that limits my ability ro walk and am in support of an OHV trail system
1268	Map Name and Number - El Paso Range Thomas Guide Route# - E110 off Garlock Road Grid Location - Point of Interest - Comment Type - Site specific This claim belongs to prospector's club of S. CA and we are allowed to use it. I need to have access to E110 (Dirt) off Gartock Rd.
Travel Management Area 8	
1001	Stoddard Wells-Black Mountain C 147732,143458,148207,146390,147744,146540, 146541, 143869, 146501, 147316, 144079, 144250, 145682, 147685, 144391 - these are currently not designated routes. Searchers request that these be designated open to allow access for rockhounding.
1001	Lavic PC7618, 7621, 7615 - Searchers request these routes remain open to the 29 Palms Reserve fence.
1001	Hector CNIIII006 off the National Trail (Rt. 66) - Searchers request that this road become a designated open route for access to rockhounding areas. CNIIII121-2, 1111125-26, 1111134-36, 1111142-44, 1111146-Hector Hills-Searchers request these roads become designated open routes for access to the rockhounding along the pipelines. Some of this covers private lands, so signing would be needed to inform people of leaving BLM lands.
1001	Talc Mine West of Hector CN115013, 1164527, 1165334, 1173621, 1174568, 1174599, 1174602, 1174606, 1174621, 1174622, 1174689, 1174690-4,1174696-702,1174704-10,1174715-18, 1174721, 1174723-40, 1174742-47, 1174750, 1174763, 1174765-6, 1174769, 1174773-4, 1174776-79, 1174781-6, 1174788-9 - rockhounding area is threaded by these routes, some of which are designated open and some of which are not designated. The area is half owned by BLM (east) and halfby private (west) with a linle State land on the north. Searchers request that those routes that are not designated be so designated as open, and those already so designated to remain open. Signs will be needed to inform public when leaving BLM land.
1001	Granite Mountains Garnets CN 1127667 - comes up from Hwy 247 onto BLM land - requested to be designated open for access to rockhounding.
1012	While BLM is dealing with roads again – this is a good time to get Camprock Rd. designated under RS 2477.
1057	BLM should establish a route that connects the Stoddard Valley Open Area with the remaining open areas of Johnson Valley. This will allow "hare and hound" motorcycle races to continue in this part of the WEMO.
1134	Again, speed, removing B to V, and Stoddard to Johnson Valley Corridors route is again putting a complete bias tlgainst OHV, yet you will allow hunting, and dogs. How do they get in there?
1149	Subregion: Ord/Red Mtn/Newberry Ord Region starting to look like "open area" - washes trashed up - old camoflauged roads back in use - Need weekend ranger patrols - Paid for by mitigation/compensation from solar and wind projects etc. use Ord Rt. planning grant for monitoring and patrols. This is a DWMA/ACEC - not "open area"
1149	Obtain easements from private property owners through which a BLM "open" route traverses - Plus indemnification for routing OHVs onto private land.
1150	Point of Interest: Johnson Valley More and more of land owned by the people of th U.S. is being taken away...At Lone Wolf Colony we have the opportunity to see literally hundreds of families come through our facility getting water and then on the return trip come through to empty their waste tanks.
1259	We paid taxes, green sticker fees to ride up on the desert. Now,the Marines want to expand into Johnson Valley OHV

Table C-2. Scoping Comments by Comment Category

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	Area. Please keep the Marines from expanding into Johnson Valley... I go sometimes with the "RIMBENDERS" motor cycle club up Stoddard road. They are a family club and don't destroy the land up there. We the people need that land and treat it with respect. Keep that land open for us.
1268	Map Name and Number - Thomas Guide GPS Map 369 Route# - Hwy 247 to 8 Grid Location - Point of Interest - Comment Type - Site specific I use pipeline road SV183 off of 247 to 8 to access my claims that I do placer mining on.
Out of Scope	
1010	For these reasons, we respectfully request an additional scoping period of thirty (30) days beyond the 17th. of October 2011 be added to this process.
1012	BLM needs to recognize the liability of a BLM-designated road traversing private property - indemnifying said owners for any liability linked to such authorized public use.
1014	As i mentioned on the phone this morning, there is a new sign attached to the BLM Kiosk at the junction of Hiway 395 and RM30. The sign states that the area is open to cross country travel. Can you please bring this to the attention of the appropriate person.
101S	The BLM should extend the comment period to a total of 120 days.
1016	The single most important action the BLM could take today, to make this process better, is to fill the position of the Ridgecrest Field Office with a permanent manager and now that Roxie Trost is leaving, the Barstow Field Office manager position too. And finally, appoint someone who has knowledge of the CDPA and FLPMA to be in charge.
1016	BLM cannot possibly complete everything required by the court, by the date agreed to. BLM knows the process took over 1S years and it wasn't yet complete. The Society believes that BLM has boxed itself into a corner and will have to do another down and dirty designation of routes which will again be in court. The Society is concerned that some of those who brought the legal action which resulted in this exercise attended the "scoping/open houses in order to set up a future legal action. Each person and organization who/which brought the legal action which resulted in this exercise, participated in the 4 years of planning for the WEMO amendment. The Fish and Wildlife Service approved the WEMO and route designation was part of that amendment.
1016	We are concerned that shortly there will only be Mr. Stein and Dr. LePre who possess any historical knowledge of what has taken place in the CDCA and during the 4 years of the WEMO amendment plan. This failure on the part of BLM to retain the people who have this knowledge has resulted in more legal actions by people and organizations who/which rely on this absence to win their points. The Society believes the BLM documentation exists, but the people with historic knowledge are gone.
1017	The BLM should complete a new Federal Register notice and extend the scoping comment period to a total of 120 days.
1022	In addition to the economic impacts on the local and regional communities, the Proposed Action must analyze and disclose the cost of the proposed action, including the ongoing, perpetual costs of the proposed renewable energy projects.
1024	The comment period is too brief for the public to have an adequate response. The time needs to be extended.
1028	Additionally we request that an adequate number of agency staff be licensed and safety trained to operate OHVs, have an adequate number of OHVs for their use and spend an adequate amount of time riding OHVs along with OHV recreationists so that they can adequately understand the needs associated with motorized access and motorized recreationists.
1046	4) Target Shooting needs to be managed: The Juniper Sub Region is a "shotgun" only area, but there is an increase in target shooting with weapons other than shot-gun, in inappropriate areas and shooting at inappropriate targets. Target shooting desert-wide is becoming more of a threat to other users. Target shooting areas are often in places where people access the hilly terrain for hiking or horseback riding (a box canyon). Target shooting also occurs regularly in Riparian areas. Areas often used for target shooting become dumping

Table C-2. Scoping Comments by Comment Category

Document Number	Comment Text
	grounds for all types of trash including couches, refrigerators televisions etc.
1071	Unlicensed kids on ORV's are not a problem on the combined use highways/roads, as long as they have had training and are supervised by a proper adult. (This also should be specified in the WEMO plan, and in local signage)
1081	The WEMO Vehicle Management Plan affects public lands two BLM Field Offices: the Barstow Office and the Ridgecrest Office. BLM is actively seeking the public's participation in the route designation plan amendment process without a permanent Field Office Manager in either of the BLM administrative offices. The public, and elected officials are relying on BLM management and staff to provide guidance and direction regarding this important CDCA plan amendment.
1087	As such, a request of 120 days extension is asked for.
1100	BLM has confused the public as to the correct date on which the scoping comment period ends. The notice in the Federal Register states the end date as October 13, 2011. At the public meeting in Ridgecrest it was announced that the ending date was October 17, 2011. The BLM should complete a new Federal Register notice and extend the scoping comment period to a total of 120 days.
1100	BLM has to accept that the implementation of whatever plan emerges, has to be shared by and with public partners. BLM has neither the money nor the manpower to implement whatever is finally accepted by the court.
1124	Landowners paying for maintenance and green stickers using illegally, All routes should be street legal. Owner signing and ____ all green stickers in green sticker areas parking staging identified
1126	extend the April 15th date
1127	In addition to the previously stated, general land management concern, I would also like to specifically address the issue of unmarked abandoned mines. If possbile , I would like the BLM to increas public awareness of abandoned mines and any potential hazards that they may present.
1134	No financial plans have been made to understand how this is all going to be paid for. Does the BLM plan on taxing all the Cities and Counties to implement this plan?
1142	I request a 2 month extension.
1151	Offering services of SNEL(biological Consulting Service) to do surveys / inventories of sensitive species in areas of Route designation
1159	We should not creat defacto wilderness areas
1164	How do we get an extension of the 10/13 comment period. With all these reference you are giving how on earth can we possibly get to the bottom and give you good comments? I think we should extend the time what do I have to do, Make formal request to who?
1263	As a member of the Palo Verdes Gem and Mineral Society, I am concerned about the proposal made by senator Feinstein to deny acess to 1,000,000 plus acres of the Mojave Desert (act of 2011).
1266	As a member of the Palos Verdes Gem and Mineral Society I am concerned ...about the proposal made by Senator Feinstein to deny access to 1,000,000 plus acres of the beautiful Mojave Desert.
1272	I don't see how closure enforcement could be convened under current and future budget cuts.
1287	BLM must recognize that the implementation of whatever plan emerges will require the involvement of public partners such as rockhounds and other recreational users. BLM has neither the money nor the manpower to successfully implement whatever is finally accepted by the court without such participation.
1291	I am also challenging the validity of inclusion of the Viscera Springs area in a Wilderness Area as defined by the Wilderness Act of 1964 (Attachment 3) and the Desert Protection Act of 1994 (Attachment 4). This area does not meet the requirements for designation as a "Wilderness Area". The Wilderness Act of 1964 states that the area shall be "Untrammeled By Man. It is also stated in the Desert Protection Act of 1994 that the areas shall be "Essentially Unaltered By Mans Activities". The area around Viscera Springs does not come close to meeting those definitions, and the area has many established roads, cabins, mines, manmade water sources and so on.
1296	Wildlife: Several years ago CDFG and volunteers reintroduced 110 Bighorn Sheep into the Whipple Mountains. BLM has failed to keep its commitment to control burro populations in this Mountain Range. If we are lucky we may have 10 Bighorn left. There needs to be a seriously major burro gather in the Whipple Mountains. The BLM should schedule regular gathers in areas where conflicts exist between burros and Bighorn.
1296	Wildlife: The Society for the Protection and Care of Wildlife's Water for Wildlife Committee does projects on its own and partners with other groups which also do water projects. In the Ridgecrest Field Office there is a MAJOR problem. Quail Unlimited holds the CDFG authorization to maintain all the guzzlers and tanks in the area. They have the letter which makes them the CDFG agent for maintaining, repair and when necessary carrying water to all guzzlers and tanks. The

Table C-2. Scoping Comments by Comment Category

Document Number	Comment Text
	California Desert Protection Act (CDPA) authorizes vehicle access in wilderness to do any or all of those activities and authorizes and appoints the CDFG as the sole arbiter of these activities. (This was one of the coalition's amendments which I helped author and which became part of the CDPA.) The Ridgecrest Wilderness person who seems to hate supplemental water sources is attempting to get around the California Desert Protection Act language by now saying that she has to approve a CDFG proposal which CDFG must prepare and submit to her and which justifies not only the work to be done but the very existence of the guzzler or tank.
1297	Many of the route designations in the wilderness that were protected by the 1994 Desert Act and the Wilderness Act for preserving guzzlers are being actively and willfully closed without legal discussion from the public in the Ridgecrest area. Quail Unlimited holds the CDFG authorization to maintain all the guzzlers and tanks in the area. They have the letter, which makes them the CDFG agent for maintaining the guzzlers.

Note: Some comment text was converted directly from PDF versions of comment documents and may have resulted in minor formatting or content differences.

APPENDIX B

SUBREGION DESCRIPTIONS

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APPENDIX B

WEST MOJAVE TRAVEL MANAGEMENT AREAS AND SUBREGIONS

Introduction

One of the first steps in the off-road vehicle designation process was the identification of travel management areas (TMA) for travel network. Eight travel management areas provide the geographical framework for implementation of the travel network through specific transportation and travel management (TTM) plans. The factors used in the development of boundaries for TMA are primarily natural transportation boundaries (e.g. highways, jurisdictional, geographic boundaries). Because of the size of the West Mojave (WEMO) Planning area, the eight TMA were further subdivided into 36 Subregions. The boundaries of the 36 Subregions that compose the TMA consider the natural transportation boundaries, law enforcement patrol areas, designated management areas, and issue-driven factors.

By comparison, the 2006 WEMO Plan had identified 20 different Subregions, which included much but not all of the West Mojave Planning area, from which they examined 11 subregions to build the WEMO network. The 2006 WEMO Subregions are based on similarities in certain biological characteristics but do not readily lend themselves to on-the-ground implementation of the transportation network. The 2006 WEMO Subregion boundaries roughly correlate to the new Subregion boundaries as feasible.

The following discussion provides a general overview of each of the Travel Management Areas and the Subregions within it.

B.1 Travel Management Area (TMA) 1

Afton Canyon Subregion

The Afton Canyon Subregion comprises the northeastern third of TMA 1, extending south from Interstate 15 to include both the Afton Canyon ACEC and the northern two-thirds of the Cady Mountains Wilderness Study Area. It is accessed by the Afton or Basin exits off of Interstate 15 or from Crucero Road on the south. It is bisected by the Mojave River, and bounded on the east by the Rasor OHV Open Area and the Mojave National Preserve and, to the south of the Preserve, the old Tonapah and Tidewater (T&T) Railroad and the adjacent Crucero Road that continue south along the boundary of the Broadwell Lake Subregion to Ludlow, CA. The Afton Canyon Subregion also extends westward to the boundary of the Manix Paleontological ACEC, which is in this subregion. The southern boundary of the subregion is a major wash which begins at Crucero Road on the east, becomes Hidden Valley Road, and extends to private residences surrounded by agricultural lands on the west, south of the Manix ACEC.

This area is characterized by its geologic features, deep canyons carved out of the badlands in the desert landscape, formed when Lake Manix, located at the eastern edge of the subregion, drained 19,000 years ago. The centerpiece of the area is the Afton Canyon Natural Area ACEC, which was designated in the CDCA Plan in recognition of its unique stratigraphy and its unrivaled combination of riparian, geologic, cultural, transportation, and recreational features in the West Mojave. The most predominant feature of the Afton Canyon ACEC is the Mojave River, which forms a 600-foot deep canyon as it flows aboveground here, one of only three places where the

Mojave River does so. To the west of the Afton Canyon ACEC, most of the public lands that remain along the river have been designated as one of the units of the Mojave Fringe-Toed Lizard ACEC.

The Cady Mountains Wilderness Study Area (WSA) overlaps the southern third of the ACEC and extends further south beyond the boundary of the Subregion. The WSA is characterized by a series of detached ridges and deep valleys with the highest peak being Cady Mountain.

Within the Afton Canyon subregion, the CNDDB documents the occurrence of five special status species (desert tortoise, golden eagle, pallid bat, fringed myotis, and Nelson's bighorn sheep) and/or suitable habitat. Although present, only a small amount (approximately 2 acres) of desert tortoise Critical Habitat and the Superior-Cronese DWMA are found within this subregion.

In Afton Canyon the Mojave River flows aboveground year-round and supports riparian woodlands with an unusual riparian plant community. It hosts many rare bird species, provides much needed riparian sustenance for all desert wildlife, and the canyon cliffs are home to nesting raptors. The Mojave River meanders through the canyon along a broad, flat sandy floor a few hundred feet wide, framed by its scenic vertical walls with multiple colors and interesting features. The river flows all year long on the west side of the canyon, A thick ribbon of plants comprised of native & invasive species lines the riparian zone and supports a wide diversity of wildlife, including bighorn sheep, mountain lion, badger, coyote, raptors, and numerous small mammals, reptiles, rodents & birds. There is frequent vehicle and train traffic in and through the canyon.

The stratigraphy provides gorgeous scenic vistas as the traveler enters the canyons of the Mojave River and as one travels in the more remote canyons in the WSA to the south in the Cady Mountains. The Cady Mountains is home to a bighorn sheep herd and lambing area. Bighorn travel from the remote lambing areas in the WSA to the Mojave River regularly to drink, and sunup or sundown can offer spectacular views of sheep offset by the canyon landscape. The Afton Subregion also provides bighorn corridors between the lambing area and points northward and southeastward. The CNDDB reports approximately 27,336 acres of historic occurrence data within this subregion for Nelson's bighorn sheep.

The Mojave River also forms a primary prehistoric, historic, and modern transportation corridor from the eastern Mojave basin and ranges province into the West Mojave desert, and evidence of this use is present on the landscape. Humans in the Afton Canyon area left a record in the form of stone tools and pottery, some of it estimated to be over 8,000 years old. Spanish missionaries were the first documented Europeans through the area, in 1776.

The Mojave Road or Mojave Trail is a historic route across the Mojave Desert, linking watering holes between the Colorado River and San Bernardino; the Mojave Road was used by Native Americans and later served Spanish missionaries, explorers, foreign colonizers, and settlers from the 18th to 19th centuries. The Old Spanish Trail was a historic trade route which also follows the Mojave Road through the Afton Subregion, and which connected the settlements near Santa Fe, New Mexico with those of Los Angeles and southern California. The segment of the Old Spanish Trail across the Mojave Desert was considered one of the most arduous and difficult for pioneers to navigate, making the Afton Canyon a special oasis on the arduous journey.

The Baxter Mine, a large iron mine, operates at the eastern end of the subregion and large trucks regularly access the mine via Basin Road. Other mineral exploration occurs in the area as well.

Grazing historically has occurred in this area, but the only obvious evidence remaining is in areas of range improvements. The Afton Canyon Subregion is known for its distinctive recreational opportunities, such as the motorized route along the historic Mojave Road, the camping opportunity at the improved campground, hiking, equestrian, and rock hounding opportunities.

Primary activities in Afton Canyon include camping in the developed fee campground & group camp site, river play, hiking, historic Mojave Road touring, equestrian riding, bird watching, bighorn sheep and wildlife viewing, photography, nature study, rock collecting, scenic touring, 4 x 4 exploration, geo-caching and hunting.

Visitor facilities include two ACEC campgrounds, an equestrian campground, and interpretative signs and kiosks. The Afton Canyon campgrounds are popular and regularly used by regional residents and travelers on long distance multi day camping trips due to easy access off of Interstate 15. From the campground, an easy loop through the canyon and up Basin Road brings the traveler back to the Interstate. The campground is also used to stage OHV over to the adjacent Rasor OHV Open Area.

The Mojave Road route is now regularly traveled by recreational tourists seeking to understand the experiences of earlier historic travelers and retrace the ancient and historic trail. Remnants can be followed from the Colorado River to the site of the old Camp Cady further upstream along the Mojave River, located in the adjacent Barstow Subregion.

Primary activities in the southern half of this subregion, particularly in the Cady Mountains WSA, are wildlife viewing and rockhounding. The WSA is widely known as a premier rockhounding location in the West Mojave.

Historically, the travel route through Afton Canyon has utilized the sandy riverbed through large portions of the canyon. The route has been moved out of the riparian area, and uses either side of the river, but vehicles still must cross the river to traverse the entire canyon area and to avoid a major railroad crossing at the east end of the canyon. The railroad through the canyon runs adjacent to the travel route through much of the canyon; the private railroad crossing at the east end of the canyon between the Natural Area and the Rasor OHV Area is a popular shortcut used instead of the official route across a sandy portion of the river, in order to continue south to the Cady Mountains and Interstate 40. The private crossing area is more dangerous than most crossings because multiple tracks come together at this location so that to get from one side to the other, at least 3 sets of tracks must be crossed.

The designated river crossings are sometimes impassible because of high water. Use of the route at these times creates sedimentation in the river, which dissipates over time as the flows continue. Because of plantings by the railroad and downstream depositions of seeds, invasive tamarisk plants have been a recurring problem in the river channel. An ongoing restoration program has been underway since 1990 to restore and maintain the river channel riparian vegetation. Much of the channel has been fenced to prevent OHV intrusions where restoration activities have taken place.

OHV travel from the ACEC campgrounds has resulted in route proliferation in various areas away from the river. The lack of a loop route to the campground has resulted in campers creating loop routes on their own through the ACEC. The routes south to the Cady Mountains WSA are very scenic. The primitive trails within the WSA are very sandy or very steep and rocky in places, and can be difficult to follow. Some route proliferation has resulted from

motorcyclists crossing the river from the Afton Campground area and creating trails up steep canyons to the top of the peaks in the Cady Mountains in the WSA.

The iron mine is accessed from Interstate 15 and Basin Road at the eastern boundary of this subregion. Basin Road is a maintained County Road that is used by both mining trucks and casual users on their way to Afton Canyon or the Rasor OHV Open Area. Once the County Road splits from the OHV route, the County Road continues up to the mine entrance. Several OHV routes are located off of this last stretch of County Road on the way up to the mine. These routes are both on public lands as well as the adjacent patented mine land, and are a potential safety issue for OHVers and the large mine trucks that travel up and down the County Road.

Broadwell Lake Subregion

The Broadwell Lake Subregion forms the southeastern third of TMA 1. It begins at Ludlow, California at the eastern edge of the WEMO Planning Area, runs north from Ludlow along Crucero Road, turns west along a wash that defines its northern border, and follows the public lands boundary back south to Interstate-40, which forms the southern boundary of the subregion. Troy Lake is north of Interstate 40 in the subregion near its western boundary, and the subregion is bisected by an east-west utility road that forms the southern boundary of the Cady Mountains WSA.

The northern half of the subregion includes Sleeping Beauty Mountain, a part of the southern Cady Mountains. South of Sleeping Beauty Mountain is a broad, scenic valley named Hidden Valley which extends for six miles. The southern half of the subregion is a large, sweeping bajada sloping southward to Interstate 40. Adjacent to Interstate 40 in the southeastern-most portion of the subregion is the northern half of the Pisgah Crater ACEC. The lava rock interspersed with sandy soils provides habitat for unusual plants such as crucifixion thorn and potential habitat for the Mojave fringe-toed lizard. Elevations within the subregion range from 1,300 to 3,980 feet. Access to this subregion is generally from Interstate 40, via Lavic off-ramp.

The larger sandy washes draining the southern Cady Mountains support disjunct occurrences of white-margined beardtongue and crucifixion thorn, both sensitive plant species. The subregion includes the occurrence of the following special status wildlife species and/or suitable habitat: Bendire's thrasher, burrowing owl, golden eagle, Mojave fringe-toed lizard, and Nelson's bighorn sheep. Approximately 12,000 acres within this subregion has been designated as an ACEC to protect the Mojave fringe-toed lizard. In addition, the southern Cady Mountains is also home to the bighorn sheep herd and lambing area that crosses between this subregion and the Afton Subregion. The Broadwell Lake subregion also includes one of the bighorn corridors, from the lambing areas and points southeastward.

Commercial activities in the subregion include the development and maintenance of major linear utilities, which include the transmission line and pipeline along the southern boundary of the Cady Mountains WSA. A solar facility had been permitted in the southern portion of the subregion, but did not get developed due to a lack of available electrical transmission capacity. Historic mineral prospecting has occurred, particularly in the southeastern portion of the subregion, and portions of the subregion were part of the cattle grazing allotment that extends northward into the Afton Canyon area.

Due to the remoteness of the Broadwell Lake Subregion and the relative inaccessibility of the Cady Mountains WSA, this subregion receives light recreational use. Recreation activities include recreational prospecting, rockhounding, wildlife viewing, and vehicle touring.

One major issue is the lack of a legal crossing of the railroad tracks north of Interstate 40 off Hector Road. While the lack of legal railroad crossings is an issue everywhere in the West Mojave, the lack of alternative north-south access for miles makes it more problematic at this location.

There has been some route proliferation in the southwestern portion of the subregion near Troy Lake and the adjacent interface with adjacent private lands. However, overall the subregion has few access conflicts due to the relatively light use it receives.

Barstow Subregion

Public lands along the Mojave River that retain their riparian integrity provide additional habitat and potential intermittent water source for wildlife. One of the other two locations where the Mojave River can flow aboveground is Camp Cady Wildlife Area, located within and adjacent to a portion of the Mojave River approximately 23 miles east of Barstow, California, about 2.5 miles southeast of the Harvard Road exit on Interstate 15. The Wildlife Area is state land, administered by the California Department of Fish and Wildlife and is managed for sensitive riparian plants and animals, including a fish known as the Mojave tui chub. The Mojave Fringe-toed lizard also makes its home in the sandbars adjacent to the Mojave River in this Subregion and further northeast along the river in the Afton Subregion.

Special status plant species occurring in the subregion include the Mojave monkeyflower and Parish's phacelia. Approximately 650 acres of a designated ACEC to protect the Mojave monkeyflower overlaps with the subregion. The subregion includes the occurrence of the following special status wildlife species and/or suitable habitat: burrowing owl, desert tortoise, golden eagle, and Le Conte's thrasher. Approximately 3,337 acres within this subregion has been designated as an ACEC to protect the Mojave fringe-toed lizard.

Camp Cady is also historic military camp dating from the 1860's. Although the Old Spanish Trail and the Mojave Trail continue adjacent to the river, it is difficult to follow the trails due to the intermittent land ownership patterns. Evidence of prehistoric and historic use of these trails and the riverine area has generally been lost over time, due to repeated intermittent Mojave River flood flows.

Most public lands in this area have been disposed of, and those that remain in the subregion are primarily located along the Mojave River corridor, with a few other scattered locations that are surrounded by private land. Most of the public lands that remain along the river have been designated as one of the units of the Mojave Fringe-Toed Lizard ACEC.

The majority of lands in this area are private, including some of the best agricultural lands in the West Mojave as well as small towns and rural developments that are concentrated near the two Interstate highways. The MCLB military depot and a small, rural commuter airport can also be found in the subregion. A power-plant is located in the subregion, which is crossed by a major north-south transmission corridor which includes both electrical and pipeline transmission facilities. There is little topography in the eastern two-thirds of the subregion. Closer to

Barstow, Elephant Mountain dominates the skyline, along with the many communication sites on its back.

B.2 Travel Management Area 2

Darwin Subregion

The CNDDB documents the occurrence of four special status species (Le Conte's thrasher, pallid bat, Death Valley sandpaper-plant, and Nelson's bighorn sheep) and/or suitable habitat within the Darwin subregion. There are approximately 277 acres of BLM designated habitat for the Le Conte's thrasher located near the western boundary of this subregion. Additionally, the Darwin subregion contains the only known occurrence data for the Death Valley sandpaper-plant within the WEMO planning area.

Due to the area being bounded on the south by the China Lake Naval Weapons Center accidental vehicle trespass is an occasional issue in the area along with private property trespass within the community of Darwin itself.

The subregion is comprised of open desert expanse that is sporadically interrupted topographically by the upper extent of the Coso Range, the Darwin Hills, and other unnamed hills. The Darwin Falls Wilderness is on the north east flank of the area which provides opportunities for primitive and unconfined non-mechanized forms of recreation. The area is popular for its backcountry vehicle touring and exploration of historic mining sites, primitive camping, packing, hiking, camping, rock collecting, wild horse viewing, and photography. Popular recreational destinations include China Gardens spring, Lower Centennial cabin site, and the historic mining community of Darwin.

North Searles Subregion

The North Searles subregion, is located approximately 28 miles northeast of Ridgecrest, immediately north of Pioneer Point and the community of Trona. It is bounded by Slate Range Crossing on the north, the crest of the Slate Range on the east, the Inyo-San Bernardino County line on the south, and the China Lake Naval Air Weapons Station (NAWS) boundary on the west.

The Great Falls Basin ACEC, Argus Mountains wilderness and the Great Falls Basin Wilderness Study Area are surrounded by this subregion on three sides. The general region consists of the upper part of Searles Valley, part of the ancient lakebed above Searles Lake. It is encircled by two prominent mountain ranges on the west, and east and north - the Argus and Slate ranges, respectively. The area is made up almost entirely of gravel, sand, and silt lakebed sediments. Elevations start as low as 1600 feet on the southern Inyo-San Bernardino County boundary, climbing to more than 5300 feet above sea level to the west in the Argus Range and to 4950 feet above sea level in the east along the crest of the Slate Range.

Common plant communities predominate in this area, including Mojave saltbush and creosote bush scrub in the lowlands, with rabbitbrush dominating communities in the washes. However, Joshua trees are found in sparse stands at a few locations at upper elevations in the Argus and Slate ranges. The subregion also contains the Indian Joe Canyon Ecological Reserve, a Department of Fish and Wildlife property protecting significant riparian habitat. Smaller riparian communities exist at isolated seeps and springs throughout the Argus Range. These

communities, made up mostly of willow and baccharis, comprise the sole critical habitat for a threatened species, the Inyo California towhee. This is a subspecies of towhee endemic only to the southern Argus Range.

Due to its location along the highway to Death Valley National Park (Highway 178) and close proximity to the community of Trona, visitation is generally high throughout the year, especially in the cooler months. The many small seeps and springs attract upland game hunters, as well as more casual visitors from the surrounding local area.

Casual OHV recreational use involving dune buggies, quads, and motorcycles is popular within the subregion. The majority of these users are local residents from Trona and nearby communities or from Homewood Canyon. Several commercial 4-wheel drive, dual sport motorcycle and equestrian tours, and equestrian competitive endurance rides occur in this area.

Numerous dispersed camping opportunities exist along the route network. While some staging areas off of Highway 178 exist, most off road vehicle enthusiasts stage from their own homes in nearby communities. There are many unmaintained dirt roads that directly connect these communities to the route system in the area. Virtually all trails in this subregion accommodate full-size 4x4 vehicles, as opposed to single-track motorcycle routes. Many of these trails offer challenges requiring strong 4x4 driving skills, particularly in rocky and mountainous stretches of the Slate and Argus Ranges.

Gem and mineral collecting also occurs throughout the Argus and Slate Ranges. Trona is home to an interpretative museum and hosts an annual gem and mineral show. Other uses occurring within the subregion are birdwatching, climbing, equestrian rides, hiking, target shooting, hunting, and rockhounding. Regular bird censuses are taken in Indian Joe Canyon ecological preserve by volunteers, and the Great Falls Basin is particularly popular with backpackers.

Due to its location near several small, rural communities, trash and graffiti, including in sensitive areas, are ongoing issues, requiring regular response. Route proliferation, such as vehicle trespass to Austin Springs at the base of the falls and to various unauthorized hill climbs in the immediate vicinity are ongoing issues in the Great Falls Basin ACEC. Fences have been built at several springs in the area to protect towhee critical habitat from damage by wild burros, horses, or vehicles.

South Searles Subregion

The South Searles subregion, is located approximately 8 miles northeast of Ridgecrest, immediately north of Randsburg Wash Road and the Spangler Hills Open Area. Randsburg Wash Road defines the subregion on the south, the China Lake Naval Air Weapons Station (NAWS) boundaries on both its east and west sides, and by the Inyo-Kern County line on the north. Numerous landowners own the private lands. The Trona Pinnacles National Natural Landmark and ACEC are surrounded by the subregion on all four sides.

The general region consists of the lower part of Searles Valley surrounding Searles Lake. It is encircled by two prominent mountain ranges, the Argus and Slates, on the west and east, and by the Spangler Hills on the south. The area abuts the upper half of Searles Valley above Searles Lake to the north - an area covered by the North Searles Subregion. The area is made up almost entirely of gravel to sandy to silty lakebed sediments. Elevations within this subregion are generally quite low, keeping to within 1600-2500 feet on the valley floor, to more than 2800 feet

at selected high points in the Argus Range. Visitation is generally high, particularly in cooler, winter months, due to the presence of the Trona Pinnacles, and the subregion's general location along a highway to Death Valley National Park (Highway 178) and close proximity to the communities of Trona and Ridgecrest. Mojave saltbush and creosote bush scrub are the predominant plant communities on the valley floor, with rabbitbrush dominating plant communities in upper elevation washes.

The South Searles is located within the Ridgecrest Mohave ground squirrel key population center.

Access to this subregion is primarily from Highway 178 and its Trona-Wildrose extension. The subregion can also be accessed from the Randsburg-Wash road, north of the Spangler Hills Open Area.

In general, the area absorbs a lot of casual OHV recreational use involving dune buggies, quads, and motorcycles. Most of these users are local residents. They come from Trona and the associated communities of West End, Argus, and Pioneer Point, or from Homewood Canyon. Some gem and mineral collecting also occurs, primarily in the foothills of the Argus Range on the western edge of the subregion. In October, the Searles Valley Gem and Mineral Society put on a Gem and Mineral Show. The subregion is also used for interpretative museum and commercial 4-wheel drive, dual sport motorcycle and equestrian tours.

Vehicles are permitted to pull off within 300 feet of a route to make camp in the subregion, except in the vicinity of the Pinnacles where visitors are asked to camp only in already impacted sites. Laws and regulations prohibit camping or staying within 200 yards of waters, which includes the natural seeps and springs in the Argus Range. Currently, all access routes on public land in this subregion comply with applicable law.

Most trails in the subregion are full-size 4x4 as opposed to quad or single-track routes, which exist only in the extreme southwestern corner of the subregion. While some staging areas off of Highway 178 exist, most off-road vehicle enthusiasts probably stage from campsites within the Trona Pinnacles or from various campsites within the Spangler Open Area just outside the subregion. Local people most likely enter this area directly from their homes in West End, South Trona, and Argus. For access to good riding areas, they must cross highway 178, traveling approximately 7 miles south of town to reach the Pinnacles or more than 12 miles to reach the Spangler Open Area.

The area offers very few opportunities for backcountry touring and sightseeing outside of the Trona Pinnacles National Natural Landmark. Climbers have not been observed in great numbers within the subregion. Equestrian use is tied to spring sources or in the case of organized, commercial and/or competitive events to regular vehicle routes for staging the necessary water and periodic veterinarian checks. Most people who hike in the area are locals who are simply exploring their own backyards.

Access to hunting areas is limited within the subregion. Hunting thus requires a good deal of hiking in the subregion. Hunters are known to pursue chukar over steep rocky terrain for long distances. Chukar and California quail are the primary targets although jackrabbits and mourning dove are hunted as well.

Non-motorized trails for mountain bikers do not exist in the area. However, mountain biking is popular along Highway 178 and with campers at the Pinnacles.

Rockhounding occurs throughout the area, in specific localities, mostly in the foothills of the Argus and Slate Ranges. During October's Gem and Mineral Show, the Searles Valley Gem and Mineral Society offers information about and several tours to various collecting and other sites of local interest in the valley.

Target shooting occurs throughout the area and is generally permitted wherever the terrain offers a safe backstop. However, the ACEC Plan for The Trona Pinnacles specifically prohibits target shooting anywhere within the vicinity of the National Landmark.

Sierra Subregion

The East Sierra subregion, located approximately 10 miles west of Ridgecrest, is defined by Highway 14 on the east; Highway 178 on the south; the Bakersfield BLM Field Office and Sequoia National Forest boundaries on the west; and the Class L and Class M boundary in the Coso Junction and Rose Valley area on the north. The Owens Peak and Sacatar Trail wilderness areas (49,009 and 33,132 acres) are located within this sub-region.

All or parts of three ACECs are found within the East Sierra subregion: Fossil Falls, Sand Canyon and Last Chance Canyon. Route designation for Fossil Falls and Sand Canyon was designated by their management plans and is not changed by the West Mojave Plan. For the Last Chance Canyon ACEC, Alternative A would adopt the 1985-87 route designations, except for the east access to Mesa Springs, which was recommended for closure by the 1982 ACEC management plan. This network would be effective on an interim basis, until the completion of a collaborative and community-based program to develop a revised motorized vehicle access network for the El Paso Mountains, including all of the Last Chance Canyon ACEC outside wilderness. Participants in this effort would include the City of Ridgecrest, Kern County, BLM and interested stakeholders. When completed, the revised network for the El Paso Mountains would be incorporated into the CDCA and West Mojave Plans through an amendment.

The region consists primarily of the eastern face of the southern Sierra Nevada. Elevations range from 2,400 feet along Highway 14 to 8,453 feet above sea level on top of Owens Peak. The mountainous terrain has deep, winding, open and expansive canyons, many of which contain springs with extensive riparian vegetation. This area is a transition zone between the Great Basin, Mojave Desert and Sierra Nevada ecoregions. Vegetation varies considerably with a creosote bush scrub and Joshua tree woodland community on the bajadas, and cottonwood and willow riparian vegetation in the canyons at lower elevations. Above 5,000 feet, the canyons and ridges are dominated by pinyon-juniper woodland with sagebrush and grey pine.

The Sierra subregion includes the occurrence of the following special status species and/or suitable habitat:

- Plants
  - Charlotte's phacelia
  - Dedecker's clover
  - Hall's daisy
  - Mojave tarplant
  - Nine Mile Canyon phacelia

- Owen's Peak lomatium
- Sanicle cymopterus
- Spanish needle onion

- Wildlife
  - Burrowing owl
  - Golden eagle
  - Le Conte's thrasher
  - Least Bell's vireo
  - Mohave ground squirrel
  - Northern sagebrush lizard
  - Swainson's hawk

Approximately 63,934 acres of the Coso Range-Olancha Mohave ground squirrel core area is located within the northern portion of the subregion.

Primary recreation activities and resource uses occurring in the area are: domestic sheep and cattle grazing, mineral exploration, utility and aqueduct corridor maintenance, communication site maintenance, recreational vehicle touring/sightseeing, dispersed hiking and camping, rock climbing, upland gamebird and deer hunting, bird watching, wildflower viewing, rock hounding, mountain biking and equestrian use. Much of this sub-region is designated as wilderness.

The proposed route designations provide for vehicle access to the following features: Owens Peak Wilderness, Sacatar Trail Wilderness, Short Canyon, Sand Canyon, Ninemile Canyon, the LADWP Aqueduct, No Name Canyon, and Indian Wells Canyon. They also provide for vehicle access to dispersed camping throughout the Eastern Sierra. The designations provide access to hiking trailhead opportunities along the boundary of the Owens Peak and Sacatar Trail Wildernesses, Short Canyon, Sand Canyon and No Name Canyon. The designations provide access to staging areas for mountain bike and equestrian recreation throughout the subregion.

The proposed designations provide for vehicle access to and through the subregion's prime chukar, Gambel's quail, and deer hunting areas. Vehicle access to popular rock hounding sites and historic Depression-Era mining sites in Indian Wells Canyon are provided. Also, vehicle access for livestock operations is provided.

The proposed designations provide for vehicle access to every known active mineral exploration area, and provide access along each authorized utility and aqueduct corridor within the area. Vehicle access to all authorized communication sites are also provided for.

B.3 Travel Management Area 3

Juniper Flats Subregion

The Juniper Flats Subregion is located east of the City of Hesperia, south of the Town of Apple Valley, and south of State Route 18 up to the southern boundary of the WEMO Planning Area in the foothills of the San Bernardino Mountains. The San Bernardino National Forest comprises the southern boundary of the subregion. The Mojave River runs adjacent to the western

boundary, and California State Highway 18 forms the northern and eastern boundaries. The entire subregion is located in San Bernardino County, California.

The Juniper Flats Subregion is defined by a large block of BLM-managed public lands that abut the San Bernardino National Forest and nearby Deep Creek on the south, and private lands on the east, west, and the north. Juniper Flats is a diverse landscape of mountains, canyons, impressive boulder fields, and washes. Elevations range from 3,000 feet to 6,000 feet. The northern boundary at the highway bisects Fifteen Mile Valley and Rabbit Dry Lake.

In the subregion is located the Juniper Flats ACEC, on a large plateau overlooking Victor Valley that has been a Native American habitation and special use site due to its ample resources and its strategic view of the valley. The ACEC includes one of several watercourses that seasonally flow into the dry lakebeds in the valley floor, with springs and an extensive stretch of riparian habitat in a dense stand of junipers.

Other watercourses running from the mountains to the valley fairly regularly are located in a series of canyons east of the ACEC, including Grapevine Canyon and Arrastre Canyon. A small waterfall is located at the northern end of Arrastre Canyon before it leaves public lands.

The Juniper Flats Cultural ACEC is on the west side of the subregion, and includes a significant Native American habitation and special use site, on a large plateau strategically overlooking Victor Valley. Middens and sub-surface deposits characterize much of the ACEC. These deposits indicate that that Native Americans used large riparian areas as sites for tool manufacture, cooking, food processing, shelter, and hunting. Archaeologists believe that the diversity of multiple abundant game species, such as black-tailed jackrabbits and rabbits, game birds, and mule deer, and plant foods from Yucca fruits, pinyon seeds, Eriogonum seeds, and native grass seeds, in combination with available fresh water made Juniper Flat an important pre-historic site. The ACEC includes one of several main watercourses that seasonally flow into the dry lakebeds in the valley floor below, with multiple springs and an extensive stretch of riparian habitat in a dense stand of junipers.

A BLM bird survey was conducted in 2001 in the central portion of the subregion and detected 61 avian species in Grapevine Canyon and 73 species in Arrastre Canyon. In addition to the California quail and other breeding gamebirds, the canyons are used extensively by neotropical migrants. Federally listed, Southwestern Willow Flycatcher's were found on these surveys of Arrastre Canyon. The flycatchers were seen during the breeding season and were exhibiting territorial behavior, but breeding was not confirmed.

The subregion is a productive ecosystem that provides ample riparian and upland habitat for large and small mammals and predators, and many other species, including habitat for the San Diego horned lizard and the gray vireo, two unlisted species proposed for protection in the West Mojave Plan. Soils are extremely erosive in most areas due to the topography in the area. Major historic fires in the area in the 1990's which scoured the landscape of its vegetation, including much of its remaining Juniper Woodlands, has increased the erosive potential of much of the eastern half of the subregion.

The CNDDB documents the occurrence and/or suitable habitat of four special status plants (cushenbury buckwheat, cushenbury milk-vetch, Mojave tarplant, and Parish's daisy) within the subregion. Additionally, critical habitat is found for three of the four species (cushenbury buckwheat, cushenbury milk-vetch, and Parish's daisy).

The subregion is dissected by a major power line which runs from Hesperia to points east of Juniper Flats. Four large patented or unpatented limestone operation pits are located where BLM-managed public lands and forest service lands meet at the Juniper Flats Subregion's south central and southwestern boundaries. Road access to these large active mining pits from nearby processing facilities and the transportation network in the valley beyond occurs on improved roads with a heavy volume of large truck traffic. Small exploratory mining activities occur in the central and eastern portions of the subregion, and a large disturbed, abandoned mine is located on the west end of the subregion that is occasionally used for camping. Seasonal cattle grazing also on the Round Mountain Allotment in the area, and occasional land use permits are approved for transient, seasonal apiary farms. Small to moderately-sized communication sites in the subregion serve the communities in the valleys below.

Recreation activities include hiking, dispersed camping, bird watching and hunting, horseback riding, four-wheel drive vehicle touring, motorcycle touring, mountain biking, and wildlife and wildflower viewing. An equestrian campground is located on nearby forest service land and a network of equestrian trails runs up a ridge above Arrastre Canyon in the Juniper Flats Subregion and around Grapevine Canyon and Round Mountain. The area lacks a staging/parking area for horse trailers which limits use to local equestrians. Visitors can camp at Bowen Ranch, a private facility, and also at developed facilities on Forest Service lands. A small, undeveloped camping area is located above Cottonwood Springs in this subregion.

The riparian areas and numerous springs in Juniper Flats, and the hot springs located along Deep Creek on adjacent forest service lands are popular hiking destinations. A parking area is located above the Deep Creek trail, and continuing on the other side of Deep Creek is hiking access to the Pacific Crest Trail.

The 1995 and 1999 fires burned over the entire northeastern third of the subregion, leading to a temporary closure of the area in and around the Juniper Flats ACEC until vegetative recovery had begun. Long-term changes in vegetative cover were triggered or accelerated by these fires, resulting in increased erosion potential and spread of invasive species. These issues can be exacerbated by OHV use, particularly use off of routes. Some routes may need additional flood control devices to control erosion that may occur during heavy rains.

Safety issues can occur where OHV's and mountain bikes use or cross limited-access trucking routes on the east side of the subregion. Topography is such that visibility of the road ahead is impaired in locations, and trucks traveling downhill have a limited ability to stop quickly in response to unforeseen traffic. Authorized traffic is controlled on these roads, but OHV's and mountain bikes may still occur on undesignated route crossings. Juniper flats is an area of significant unauthorized route use, and is currently a management "hot spot" subject to intensive management focus.

In addition, motorcycles and equestrians or hikers use the same trails in many places, resulting in startling of horses or motorcyclists, and aesthetic conflicts. Some anecdotal evidence exists that either supports or does not support startling of animals by motorcyclists and vice versa. Some horses have become accustomed to approaching motorcycles while others may not be. Hikers have complained that the aesthetic experiences in this subregion do not approach a backcountry experience due to the noise and visual effects of OHV vehicles. Another OHV conflict occurs where motorcycle routes have received 4x4 vehicle use, making them difficult to maintain as motorcycle-only motorized routes.

Trespass issues occur in this subregion because of the relative popularity of the area both as a destination and as an access point to reach forest service lands. These occur near the boundary of public lands and private lands, and near the boundary between forest service and public lands, where multiple access points occur. Most of the trespass issues occur as the result of local users. The east-west powerline road, which crosses non-public lands for most of its length through the area, has been a primary access point for local users.

Rattlesnake Canyon Subregion

The Rattlesnake Canyon Subregion is located east of the Juniper Flats Subregion, southeast of Lucerne Valley. The Bighorn subregion consists of public and private lands found to the south of State Highway 247 from Lucerne Valley eastward, and State Route 18 roughly between its intersection with Camp Rock Road and the community of Yucca Valley, California. The San Bernardino National Forest comprises the southern and western boundary of both the subregion and the WEMO Planning Area in this location. Rattlesnake Canyon Road, a wilderness corridor, provides the major access to the San Bernardino Mountains from the north and Pioneertown Road provides the major access from the east.

The Bighorn Mountains Wilderness is located in the center of the subregion, and extends west into the San Bernardino National Forest. The wilderness consists of the steep canyons and sharp peaks of the rugged Bighorn Mountains, which form the eastern foothills of the San Bernardino Mountains. These features limit motorized access to the subregion from the north and northwest, and the adjacent wilderness in the San Bernardino National forest limit access to the subregion from the northeast.

The Carbonate Endemic Plants Research Natural Area ACEC was designated in the WEMO Plan on approximately 4,400 acres of public lands in the Rattlesnake Canyon Subregion that abut the San Bernardino National Forest. Four listed and one unlisted sensitive plant species occur in this area that are associated with the remaining high-grade carbonate (limestone) soils that have not been disturbed by mining in this region.

The Rattlesnake Canyon Subregion is a productive ecosystem that provides ample riparian and upland habitat for many species, including habitat for special status species including the San Diego horned lizard, gray vireo, Bendire's thrasher, golden eagle, Le Conte's thrasher, and species that are found in the Carbonate Endemics Plants ACEC. The transition area from the mountains down to the valleys includes a narrow band of very high grade limestone that is used in pharmaceuticals and special clays, and provides habitat for rare plant species. The CNDDB documents the occurrence and/or suitable habitat of seven special status plants (cushenbury buckwheat, cushenbury milk-vetch, cushenbury oxytheca, Little San Bernardino Mountains Linanathus, Mojave monkeyflower, Parish's daisy, and Robison's monardella) within the subregion. Additionally, critical habitat is found for four of the seven species (cushenbury buckwheat, cushenbury milk-vetch, cushenbury oxytheca and Parish's daisy).

The area is an ecological transition zone between desert and mountain vegetation that in many places is relatively undisturbed because of the steep topography, its limited development and access potential, and few nearby population centers. Numerous ephemeral creeks flow through the wilderness and adjacent canyons down to the valley floors into Johnson Valley. Elevations within the Bighorn subregion range from 3,100 to 6,600 feet. The Bighorn Mountains and

surrounding area is known for a wide variety of wildlife species, including large mammals, raptors, and game and non-game birds.

Primary resource uses are large-scale mining and associated rights-of-ways along the southern side of the subregion, powerline and pipeline rights-of-way along the northern edge of the subregion parallel with the highway and on the east side to scattered residences, and cattle grazing in the Rattlesnake allotment that partially overlaps the wilderness.

Recreational activities include OHV touring, technical touring up the Rattlesnake Canyon corridor, hunting, wildlife viewing, hiking, camping, and mountain biking. The area is a popular destination for San Bernardino National Forest-related recreation coming from State Route 18 east of the subregion via the one major east-west access point south of the wilderness.

Trespass issues are a problem in the isolated communities on the east side of the subregion as new roads and development has occurred and the forest service access route has become more popular. Topography and landownership limit the ability of a complete touring loop on public lands, which has also increased trespass problems.

Morongo Valley Subregion

The Morongo Valley Subregion is located at the southernmost tip of the WEMO Planning Area on either side of State Route 62 just north of the town of Morongo Valley at the southeastern base of San Bernardino Mountains. The subregion is bounded on the west and north by the San Gorgonio Wilderness Area, on the east by the Big Morongo Canyon ACEC and Joshua Tree National Park, and on the south at the San Bernardino County line at the planning area boundary. Elevations on public lands in the area range from 1700 feet on the canyon floor to 3800 feet on the ridges heading up towards the peaks of the San Gorgonio Wilderness. These lands overlap the South Coast Resource Management Planning Area, and public lands within the subregion are primarily managed out of the Palm Springs South Coast Field Office.

Public lands in the area are primarily located within wilderness and the wilderness corridors to inholdings. Three public land focal areas are located outside of wilderness, two on the west side and one on the east side of State Route 62. This area includes the transitional zone between the eastern base of the San Bernardino Mountains and dry upland desert ranges of the City of Twentynine Palms and Joshua Tree National Park, and contains a series of parallel canyons, rocky ridges and boulder outcrops. The subregion is also transitional between the high and low deserts of Southern California. The ephemeral drainages flow down from ridge tops on either side of the highway steeply down into Morongo Valley.

The Morongo Valley Subregion provides an important wildlife corridor used by deer, bighorn sheep, and mountain lions between the San Bernardino National Forest, the San Gorgonio Wilderness Area and Joshua Tree National Park. The springs in this area and in the nearby Big Morongo Canyon Preserve serve as essential sources of water during drought periods.

Big Morongo Canyon Preserve ACEC, located within the subregion, is a 28,274 acre wildlife refuge and National Watchable Wildlife Site. Preserve programs and displays seek to provide educational opportunities for children, youth, and adults to further their understanding of desert and marsh ecosystems, and the function and importance of a preserve on local, regional, and global levels. Numerous non-motorized trails, including boardwalk trails through the marsh and

stream habitats, meander through the Preserve, which is managed by the BLM. Access to the Preserve is via State Route 62.

This area is transected by numerous roads, rights of way, utility corridors, ranches, farms, cabins, and tract homes in the valley below. The public lands further away from the valley floor receive relatively light recreational use due to the many private inholdings and commercial activities. Some OHV activity, hunting, hiking, wildlife viewing, photography, and nature appreciation occurs in this area.

There are few access conflicts in this area due to the relative light use it receives.

Joshua Tree Subregion

The Joshua Tree Subregion includes the southeastern portion of the Planning Area adjacent to Joshua Tree National Park and south of State Highway 62. The cities of Twentynine Palms and Joshua Tree are at its northern edge along the highway, and provide the primary access points into the area. The subregion forms a narrow band of public land between the park and the towns below.

Most of the subregion is dominated by steep but generally routed hills, vegetated with the creosote bush scrub community, dry desert lands rise to the south from Highway 62 towards Joshua Tree National Park. The smaller, north-south-trending Twentynine Palms Mountains are located in the western portion of the region and the larger, east-west-trending Pinto Mountains cover its southern half. Elevations range from 1,300 to 4,500 feet.

The central portion of the subregion includes many scenic rock outcroppings that are not far off of the highway. Many washes are located in this area that contains sensitive riparian vegetation communities, including smoke tree, catclaw and desert willow. Stands of Mojave yucca exist within many of the interior valleys. The Old Dale Mining District covers most of the eastern half of the subregion and is well known for its many historic mining features.

The Pinto Mountains Wilderness was established in 2009 and is located at the southern end of the subregion adjacent to the Joshua Tree National Park. Approximately 102,680 acres of desert tortoise Critical Habitat is located within the subregion, as well as approximately 1,418 acres of a designated Mojave fringe-toed lizard ACEC.

Primary resource uses occurring in the subregion are mining and mining exploration, and powerline and pipeline rights-of-way. Recreation activities in the area include rockclimbing and rock crawling, rockhounding, recreational mining, hunting, shooting and off-highway touring. Most of the area south of the town of Twentynine Palms is managed as backcountry with a few main improved routes that run through it and provide access to roadside attractions. The Old Dale Mining District is a popular destination for historic mine buffs. Features include extensive historic mines and related roads, ruins and camps.

Two specific locations have been identified with boundary issues, where OHVs continue into Joshua Tree National Park on routes that dead-end at the park boundary. Two areas have evidence of substantial route proliferation, the result of historic mining exploration, which may impose safety risks from old mining workings and shafts.

Needles Subregion

The Needles Subregion consists of a narrow swath of land about 12 miles long and 2-3 miles wide running in a NW-SE arc from Interstate 40 just east of Bagdad on the north, around the northeastern and east side of the 29 Palms MCACC, terminating south of Interstate 62 adjacent to Joshua Tree National Park. The eastern boundary of the subregion is Amboy Road in the north, and the Sheephole Valley Wilderness Area and Joshua Tree National Park in the south. It includes the northwest and southwest corners of public lands managed by the Needles Field Office in San Bernardino County, California.

This area comprises a relatively lower and drier desert basin area, and a portion of the historic Route 66 transportation corridor (National Trail Highway) providing access from Barstow to Needles and points east. The most prominent feature is Amboy Crater National Landmark. The Sheephole Valley Wilderness Area substantially limits access options in the southern half of the subregion.

The drive down Amboy Road is one of the most scenic in the Mojave Desert during spring due to the spectacular displays of wildflowers along Amboy Road. Amboy Crater National Natural Landmark marks a majestic black lava crater rim that towers over the adjacent bajada landscape, surrounded by a field of black rock. A few locations of the BLM-sensitive White-margined beardtongue are found north of 29 Palms MCACC in this subregion. This subregion also includes approximately 1,197 acres of Critical Habitat for the desert tortoise.

The area includes pipelines, powerlines, a railroad and its boundaries are marked by major transportation corridors. One active mine, Amboy Mine, and scattered ruins of large mining operations can be found off of Amboy Road and Route 66. There is little opportunity for OHV Touring in this subregion. Most recreationists are in the Needles Subregion either to visit the Amboy Crater National Natural Area, to view wildflowers, or to park at a trailhead of one of the wilderness areas.

There are few access conflicts in this area due to its relatively small size, and the relative light use it receives.

Wonder Valley Subregion

The Wonder Valley Subregion comprises the area north of State Highway 62 and south of 29 Palms MCACC, between Amboy Road on the east and State Route 247 just north of Bodick Road on the west. The western and southern expansions of the 29 Palms MCACC are adjacent to this subregion on the north and northwest. Most of the area is generally referred to as Wonder Valley.

This subregion is an extension of the east-west Desert Valley basin, with lands gradually rising to a ridgeline on the 29 Palms MCACC to the north. The northeastern corner of the subregion is comprised of the designated Cleghorn Lakes Wilderness Area, and therefore is closed to vehicles except for trailheads immediately off of Amboy Road or from public lands south of the wilderness area. The foothills of the Bullion Mountains rise as you travel north towards the ridgetops in the Cleghorn Lakes Wilderness, and continue into the 29 Palms MCACC. Sand dunes are located in the north-central portion of the subregion adjacent to springs and nearby Mesquite Dry Lake bed, which continues onto the marine base. The Joshua Tree National Park gateway community of 29 Palms is located on the southern boundary of the subregion, and the

City of Joshua Tree is located on its southeastern boundary at the intersection of State Routes 62 and 247. A half-dozen rock outcroppings are located at the northwestern edge of the otherwise flat portion of the subregion, including Giant Rock, a large outcropping adjacent to a dry lake bed.

Some historic dwellings exist in the subregion but this area contains extensive dispersed urban interface from small tract homes, and few undisturbed areas. The sand dunes and springs adjacent to Mesquite Lake bed include sensitive vegetation, most of which is located on private lands. Sensitive plant species occurrence on BLM lands includes the Little San Bernardino Mountains Linanthus and Robinson's monardella. The Wonder Valley subregion includes approximately 6,592 acres of designated desert linkage networks, crucial to the conservation of special status wildlife species. The CNDDB and BLM field offices document the occurrence of the following special status wildlife species and/or suitable habitat: Bendire's thrasher, Le Conte's thrasher, Mojave fringe-toed lizard, and Nelson's bighorn sheep. Approximately 1,220 acres within this subregion has been designated as an ACEC to protect the Mojave fringe-toed lizard.

An active salt mine is located on Dale Lake Bed in the southeastern corner of the Wonder Valley Subregion. Historic and active mining claims are prevalent in the Copper Mountain and other highlands public land areas, interspersed with broad valleys that are primarily private rural residential lands. The area includes features typical of the southeastern Mojave Desert, with some rock outcroppings that offer opportunities for exploration. Just off the northwestern edge of this subregion is a well know destination known as Giant Rock, and south of that is the Integratron "rejuvenation" machine", built in 1959, which has become an international tourist attraction. In the north-central portion of the subregion is Copper Mountain Community College, a small community college that primarily serves residents of the surrounding small towns and rural areas. The college students use the area surrounding the college for recreational pursuits outside of the classroom, and the area immediately north of the college shows significant signs of on- and off-route use of OHVs.

Some of the major issues in this area are trespass, air quality and noise due to the many residences along unmaintained roads that are interspersed with empty lots and public lands. Route designation is more constrained in this area because many private lands were obtained through the Small Tracts Act of 1938, a desert settlement act originally for World War I servicemen that targeted specific areas, including the Wonder Valley area. In many cases no access was set aside in classification orders for individual tracts, and in such cases reserves were made around the entire perimeter of the tracts. These reserves resulted in unnecessary access routes adjacent to many tracts, and restricted the use of the entire tracts by the purchasers. As a result there is a system of routes in this rural area that is more akin to a square road system within an urban suburb containing small tract homes.

Pisgah Crater Subregion

The Pisgah Crater Subregion is bounded on the north by Interstate 40, on the south by the 29 Palms MCACC, on the west by Powerline Road, which serves as access for the adjacent Rheox Mine just to the west of this subregion, and on the east terminates just beyond (east) of Bagdad and 2.5 miles west of Ludlow.

This area is a small narrow swathe of land 2-3 miles wide, about 12 miles long between Interstate 40 and 29 Palms MCACC. The major geographic feature in this area is the Pisgah cinder cone and the associated black lava flow that covers the eastern third of the subregion. Adjacent to the cinder cone, a large lava field trends toward the east-southeast, eventually ending on 29Palm MCACC. A large portion of this lava field and the land immediately northeast of the lava field was designated as an ACEC to protect the unusual plants including white-margined beardtongue habitat in the lava fields and adjacent to the north. The ACEC also includes the sandy habitat on either side of Interstate 40 which is potentially suitable for Mojave fringe-toed lizard habitat.

The Pisgah cinder cone and lava field provides a unique mars-like, scenic black landscape over Lava tubes adjacent to the Pisgah crater cone provide habitat for sensitive bat species. Sensitive species that occur in population nodes in the sandy, lavic soils include white-margined beardtongue and crucifixion thorn; which also provides suitable habitat for the Mojave fringe-toed lizard. Occurrence of this species has been documented within the subregion. The lava fields also have extensive networks of "lava tubes" which may support sensitive endemic cave invertebrates.

The prominent cinder cone feature that dominates the landscape makes the area popular for scenic touring and photography. Casual use spelunkers as well as biologists and other scientists explore the lava tubes surrounding the cinder cone. The cinder cone itself is the location of an active mining operation for its unusual decorative rock. Away from the cinder cone and adjacent lava field, it is a relatively remote area with few visitors, yet human sounds are near constant because of intensive ambient sounds associated with transportation activities and low flying aircraft.

Access conflicts can occur between the mining operation and casual users which occasionally trespass onto private lands. Because of the intermittent nature of the mining operation, this issue is not as problematic here as at some other active mines. Casual spelunkers can also cause damage to the fragile biological resources in the lava tubes.

B.4 Travel Management Area 4

Jawbone Subregion

The Jawbone Canyon subregion includes the Jawbone Canyon and Dove Spring Open Areas, and Bright Star and Kiavah Wilderness Areas.

The Jawbone subregion includes approximately 84,226 acres (approximately 32% of the subregion) of designated desert linkage networks, crucial to the conservation of special status wildlife species. The CNDDB and BLM field offices document the occurrence of the following special status species and/or suitable habitat:

- Plants
  - Charlotte's phacelia
  - Kelso Creek monkeyflower
  - Mojave tarplant
  - Spanish needle onion

- Wildlife
  - Bendire's thrasher
  - Burrowing owl
  - Golden eagle
  - Le Conte's thrasher
  - Mohave ground squirrel
  - Pallid bat

Approximately 54,448 acres of the Little Dixie Wash Mohave ground squirrel core area is located within the eastern portion of the subregion. In addition, the Jawbone Subregion contains numerous ACECs including, those set-up for the conservation of the Bendire's Thrasher and Kelso Creek monkeyflower. Over half of the northern portion of the subregion includes the Jawbone-Butterbredt ACEC and a small portion of the Middle Knob ACEC overlaps with the southern boundary of the subregion.

The extensive amount of private property checker boarded with public lands in the southern and western portions of this subregion result in access conflicts. The Pacific Crest National Scenic Trail also traverses through the management area. This trail sometimes sees user conflicts between non-mechanized and motorized user when some vehicles trespass onto this trail.

Middle Knob Subregion

The Middle Knob Subregion, located approximately 40 miles southwest of Ridgecrest, is defined by Highway 14 on the east; Highway 58 on the south; the CDCA boundary on the west; and the Jawbone Butterbredt ACEC on the north. Numerous landowners own the private lands.

Primary recreation activities and resource uses occurring in the subregion are recreational vehicle touring/sightseeing (such as in the proposed Middle Knob ACEC), camping and hiking (such as within the proposed Middle Knob ACEC and the Pacific Crest National Scenic Trail), hunting, domestic sheep and cattle grazing, utility corridor maintenance, communication site maintenance, wind energy, and mineral exploration.

This subregion has a variety of special habitats (pavement plains, vernal pool, springs and grey pine woodland) and artificial waters (small game guzzlers). Biological values of special concern include habitat for desert tortoises, Mohave ground squirrels, raptors (nesting and foraging areas), and special status plants. The CNDDB and BLM field offices document the occurrence of the following special status species and/or suitable habitat:

- Plants
  - Charlotte's phacelia
  - Kern buckwheat
  - Bakersfield cactus
- Wildlife
  - Burrowing owl

- Golden eagle
- Le Conte's thrasher

Further, cultural resources are significant in the subregion.

Lancaster Subregion

The subregion consists of an assortment of scattered tracts of public land; predominantly within Los Angeles county. Open routes primarily connect private roads and provide casual OHV recreation. Extensive private land developments w/roads, power and water systems. Other developments include commercial power plant, military bases, airports, hotels, restaurants and gas stations.

The Fremont-Kramer DWMA overlaps with the northeastern corner of the subregion, as well as 1,369 acres of designated desert tortoise Critical Habitat. In addition to desert tortoise populations, approximately 126 acres of the Edwards Air Force Base ground squirrel core area is located within the northeast corner of the subregion.

Due to the scattered nature and small amount of public lands within this area the largest access concern in this area is ensuring that our network connects with those already in place being managed by the local municipalities and other government agencies.

B.5 Travel Management Area 5

Fremont Peak Subregion

The Fremont Subregion is located approximately 30 miles northwest of Barstow, California. U.S. Highway 395 provides access to the Fremont subregion from the west, Cuddeback Road from the north, Hoffman (Lockhart) Road and smaller roads that skirt around the east side of Harper Lake from the east, and State Highway 58 from the south. It is bounded by the Harper Lake subregion on the southeast, by the Black Mountain Subregion on the northeast, by Cuddeback subregion on the north, by the Rands Subregion on the west, and by the Kramer Hills subregion on the south.

The northwest portion of the subregion includes primarily flat terrain, undulating slightly with some prominent rocky buttes. Vegetation is creosote bush scrub, typical of that found throughout the Western Mojave, transitioning towards the south to a combination of creosote bush scrub and salt bush scrub. The lands in the subregion slowly rise from the west and south towards Fremont Peak located in the northeastern corner of the subregion. The creosote bush scrub community in this area is limited to the bajadas and foothills, extending only about one-third of the way to the top of Fremont Peak. The higher elevations of Fremont Peak are rocky hillsides with widely scattered plants of the Mojave mixed woody scrub community. Smaller outcrops are found in the center of the subregion and along Hoffman Road, the major north-south access road.

The entire subregion is within the Fremont Kramer Desert Wildlife Management Area (DWMA), an Area of Critical Environmental Concern to conserve desert tortoise and enhance its habitat. The designated DWMA continues north beyond Cuddeback Road into the Red Mountain Subregion in TMA 7, and south to the other side of State Highway 58, into the Kramer Hills

Subregion, within TMA 6. In addition, the Barstow Woolly Sunflower ACEC is located in this subregion, which has the highest concentration of the species in the planning area.

The Barstow Woolly Sunflower is a rare West Mojave endemic plant which is found on shallow soils throughout the subregion. Approximately 19,000 acres has been designated as an ACEC for the protection of the species within the central portion of this subregion. The Fremont subregion also provides suitable habitat for the desert tortoise. Over half of the subregion is designated desert tortoise Critical Habitat by the USFWS. Desert tortoise fencing runs along the north side of State Highway 58 to prevent desert tortoise fatalities from traffic on the highway. In addition to the desert tortoise and the Barstow Woolly Sunflower populations, other sensitive resource values include two of the Mojave Ground Squirrel population areas overlap the western and southeastern portion of the subregion.

A north-south utility corridor parallels US Highway 395 on the west side of the subregion and another utility corridor runs east-west from Kramer Junction at that intersection of US Highway 395 and State Route 58. These utility corridors include high-voltage transmission lines and underground pipelines and the access roads associated with their construction and maintenance. Small mining exploration and activity, both historic and recent, occurs primarily in the vicinity of Fremont Peak. Leasable economic mineral resources (oil and gas) occur in the southern part of the subregion. Low-level military overflights occur regularly in this area, and sonic booms are not uncommon.

Most recreation in the Fremont Subregion is either associated with destination-oriented camping or touring. Cuddeback Lake Bed, located adjacent to and north of this subregion, is the most popular recreational and camping destination for travelers in the area. Cuddeback Lake Bed is accessed from Cuddeback Road which runs east off of US Highway 395. Cuddeback Road also provides access to points further east and south. Recreationists also use Cuddeback Dry Lake and some nearby disturbed areas off Cuddeback Road to stage their secondary vehicles. Motorcycles are particularly popular in this area. Hoffman Road provides access to Cuddeback Lakebed from the south and intersects Cuddeback Road. Hoffman Road runs past two smaller lakebeds known as Twin Lakes on the way to Cuddeback Road. Adjacent to Twin Lakes are two well-used staging and camping areas, one of which is particularly popular owing to the unique acoustics created by its location in a natural recess adjacent to a high vertical rock wall. Occasional dual-sport tours occur in and through this area, including, in some years, the multi-day Thanksgiving touring event.

A substantial amount of the non-public land in this subregion is being managed under conservation easement to private landowners. The primary issue in this area is unauthorized use of closed routes and route proliferation near camping and staging areas in sensitive habitat, both on public lands and private lands. Unauthorized use occurs primarily in the northern and western part of the subregion, off of the major east-west and north-south routes, or near highway access.

Black Mountain Subregion

The Black Mountain subregion is located approximately 25 miles northwest of Barstow and east of the Fremont Peak Subregion. It is tucked between the Fort Irwin Army NTC and three other Subregions in the TMA. It is bordered on the west by Hoffman (Lockhart) Road, on the east by Hinkley Road and BM6285 which angles northeasterly towards Superior Dry Lakes, the pipeline

road on the south boundary of the Black Mountain Wilderness Area, and Fort Irwin and Grass Valley Wilderness Area on the north.

Black Mountain dominates, located in the south central portion of the subregion, along with Opal Mountain to the north of Black Mountain. A parallel ridge line lies northeast of Black Mountain on the other side of a narrow valley. The foothills surrounding Black Mountain provide varying topography and areas of sharp relief, and taper into several valleys to the north and Black Canyon to the east. The westernmost Superior Dry Lake is located in the northwestern corner of the subregion in Superior Valley, and Gravel Hills is located in the northeastern portion of the subregion adjacent to the southern edge of Grass Valley. The Black Mountain Wilderness Area includes Black Mountain and the area immediately around it, and comprises about 20% of the subregion. The Black Mountain Cultural ACEC, designated for its prehistoric and Native American values, overlays about a third of the subregion and includes all of the wilderness area and lands surrounding the wilderness extending further northward and eastward, extending into the adjacent subregion. The ACEC was modified in the 2006 WEMO Plan to include conservation of desert tortoise and sensitive plant species. The entire subregion is within the Superior-Cronese DWMA ACEC, designated to conserve desert tortoise and enhance its habitat.

The Black Mountain Petroglyph Sites are an extensive assemblage of prehistoric rock carvings in the basalt rock outcroppings through the south-central portion of the subregion. The most well-known site is Inscription Canyon, which is nationally known and receives substantial visitation in this area. A number of sites in this area are listed within a National Register District. The prehistoric resources represent habitation, extractive activities, and lakeside adaptations. Many of the sensitive resources in this area also represent historic activities, mostly mining and travel.

Approximately 70 percent of the subregion is designated desert tortoise Critical Habitat. Additionally, the entire subregion is within the Superior-Cronese Desert Wildlife Management Area, an Area of Critical Environmental Concern to conserve desert tortoise and enhance its habitat. The DWMA continues north into Grass Valley Wilderness Area, south into the Harper Lake Subregion, and east into the Coolgardie Subregion. A population of desert cymopterus is located in the southeastern portion of the subregion within the Black Mountain ACEC and Wilderness Area. In addition to the desert tortoise, other sensitive resource values include a portion of the Coolgardie Mesa-Superior Valley Mojave Ground Squirrel Core Population Areas along the eastern boundary of the subregion. Murphy's Well provides essential water for wildlife and is located immediately adjacent to the eastern boundary road, BM6285.

This area is a popular destination and touring subregion. Black Canyon and Inscription Canyon are particularly popular destinations for touring and petroglyph viewing. Opal and Black Mountains are popular rockhounding destinations in the subregion. Superior Dry Lake and its two sister lakes, now located within the Fort Irwin NTC boundary, used to draw many land-sailing enthusiasts and the remaining western lakebed still receives some visitation. Hunting is also popular in this area. Occasional dual-sport tours occur through this area, including, in some years, the multi-day Thanksgiving touring event. The large basaltic mountains and interspersed canyons are also popular for raptor viewing. Low-level military overflights occur regularly in this area, and sonic booms are not uncommon.

Most of the lands in this subregion are federal or State lands. The primary issue in this subregion is vandalism and theft of the sensitive cultural artifacts, particularly in areas which receive higher visitation or are more widely known. Unauthorized use of closed routes occurs in and around the

Black Mountain Cultural ACEC and in the northeastern corner of the subregion towards Cuddeback Dry Lake.

Coolgardie Subregion

The Coolgardie Subregion, located north of Barstow, is bounded by Fort Irwin NTC on the north, and Hinkley Road which becomes BM6285 and the Black Mountain Wilderness boundary on the west; Fossil Bed Road and a pipeline road, HL7159 mark the boundary with Harper Lake Subregion to the southwest, Irwin Road on the boundary with Mitchel Mountains Subregion to the south and Calico Mountains Subregion to the southeast. The major private landowner is the Catellus Development Corporation. Much of the private land has been acquired by the Department of Defense as mitigation for the expansion of the Fort Irwin Army NTC. Primary access to this area is off of a paved highway, Fort Irwin Road in the southeastern portion of the planning, which connects to another well maintained road, Copper City Road that runs southeast to northwest. Another well used north-south access road off of Fort Irwin Road is the Randsburg-Barstow Road.

The subregion includes the following major geographic features and designations:

- Unique and colorful exposed geologic features
- Lane Mountain provides the high point of the subregion, tapering towards mesas and valleys surrounding it and back up to the volcanic, rocky slopes of the Paradise Range in the north.
- Rainbow Basin/Owl Canyon ACEC: protects paleo geologic, scenic values, sensitive spp.; provides for recreational enjoyment, accessible off Fossil Bed Road, and includes the Mud Hills, Fossil Canyon, Owl Canyon campground, and the colorful Rainbow Basin.
- Approx. 4,000 acres within the Rainbow Basin/Owl Canyon ACEC is a National Natural Landmark and is withdrawn from the mining laws for protection of natural features and recreational values, and the area in and around the Owl Canyon Campground is closed to shooting
- Coolgardie Mesa ACEC and the Paradise Valley ACEC within the central and north central portions of the subregion are proposed for withdrawal from the mining laws for the protection of two of four remaining known populations of the endangered Lane Mountain Milkvetch plant.
- Superior-Cronese DWMA
- A small portion of the Black Mountain Cultural ACEC, designated for its prehistoric and Native American values, extends into the westernmost portion of this subregion, east of Hinkley Road/BM6285. Most of the Black Mountain Cultural ACEC is within the adjacent Black Mountain subregion to the west.

The Coolgardie subregion includes approximately 54,064 acres (approximately 45% of the subregion) of designated desert linkage networks, crucial to the conservation of special status wildlife species. The CNDDB and BLM field offices document the occurrence of three special status wildlife species (Le Conte's thrasher, Mohave ground squirrel, and desert tortoise) and/or

suitable habitat. Approximately 31,712 acres of the Coolgardie Mesa-Superior Valley ground squirrel core area is located within the northern portion of the subregion. In addition, the Coolgardie Subregion contains 81,478 acres (approximately 67%) of the designated desert tortoise Superior-Cronese DWMA and designated Critical Habitat. Additionally, the occurrence of four special status plant species (alkali mariposa lily, Barstow woolly sunflower, Clokey's cryptantha, and Lane Mountain milk-vetch have been documented within this subregion. Approximately 9,888 acres of Critical Habitat has been designated within the Coolgardie subregion for the Lane Mountain mild-vetch.

This area is readily accessible to recreational users, RVers, and groups. The central portion of the subregion is very popular for recreational "dry washing" (gold panning) near Copper City Road, including by drywashing clubs. The subregion includes the following activities:

- Recreational touring throughout the planning area.
- Camping both in the Owl Canyon Campground and dispersed throughout the subregion.
- Other recreational activities include touring the motorized Rainbow Basin loop trail, rockhounding, hunting, and motorcycling, including on technical trails in the Mud Hills
- Utility corridor in the southeastern portion of the subregion, and major transmission lines, and a pipeline within the corridor.
- Major mining activities in the southeastern portion of the subregion, zeolites and decorative rock used in landscaping,
- Major prospecting, primarily in the Mud Hills in the west central portion of the planning area east off of Coolgardie Road to Copper City Road.

The area has high recreational use levels in sensitive areas. Drywashing has disturbed critical habitat. Historic disturbances have exceeded the 50-foot Stopping and Parking limits.

Harper Lake Subregion

The Harper Subregion, located northwest of Barstow, is bounded on the north by a pipeline road (HL7159) which also marks the boundaries with the Coolgardie subregion on the northeast and the Black Mountain Wilderness and subregion boundary on the northwest. A major divided highway, Irwin Road, forms the eastern boundary with the Mitchel Mountains Subregion, State Highway 58 is the southern boundary of the subregion and TMA 5, and the Fremont Peak subregion forms the western boundary of the subregion. The small semi-rural community of Hinkley is located in the south-central portion of the subregion, with its town center at the junction of Hinkley Road and old State Highway 58. A major east-west railroad also runs just north and parallel to State Highway 58.

Waterman Hills in the eastern portion of the subregion, Harper Lake in Harper Valley in the western portion. The southern portion of the subregion encompasses Mud-Water Valley, Waterman Hills, and outlying areas of Barstow. Access to the subregion from the south is obtained from Interstate 15, State Route 58, and Irwin Road.

The Subregion contains 27,275 acres of designated desert tortoise Critical Habitat. In addition, the Superior-Cronese and Fremont-Kramer DWMAs overlap with the majority of the subregion. This subregion also includes the occurrence of four special status plant species (Barstow woolly

sunflower, desert cymopterus, Mojave monkeyflower, and Parish's phacelia) have been documented within this subregion.

Excellent opportunities for both hiking and backpacking exist in the Black Mountains, Opal Mountains, and Calico Mountains. Major activities include camping, rockhounding, hunting, and motorcycle free play. Routes vary from long, flat graded utility corridor routes or the flats of Superior Valley; technical jeep routes in the Calico Mountains; technical single-track motorcycle routes in the Mud Hills; lengthy remote touring routes around the Black Mountain wilderness or through the Grass Valley wilderness corridor; short quickly accessible routes into the Mitchell Range or Waterman Hills; and those that provide a loop opportunity to those that are "dead-ends".

Several public roads are located within the subregion including Harper Lake Road, Santa Fe Avenue, and Lockhart Road. The Grass Valley Wilderness and the Red Mountain subregion (within BLM's Ridgecrest Resource Area) bound the subregion to the north, State Highway 58 to the south, the Black Mountain Wilderness and Superior subregion to the east, and U.S. Highway 395 to the west. The Fremont subregion encompasses a total of approximately 222,750 acres, which includes 52% (116,274 acres) Federal land managed by the BLM, and 47% (105,494 acres) private and State land.

The southern portion of the Fremont subregion includes Water Valley, a relatively large, open and flat area with scattered low rolling hills. This area also includes about half of Harper Dry Lake, which is the lowest point of the subregion at 2,018 feet. A portion of Harper Lake is within a BLM Area of Critical Environmental Concern (ACEC), in support of the birds and wildlife in that area. Vegetation in the Water Valley consists mainly of creosote bush scrub and saltbush scrub, and some scattered Joshua trees. A large number of unimproved roads cross the valley along with public infrastructure facilities that include high voltage transmission lines, wood pole power lines, and telephone lines. In addition, the valley includes intermixed grazing and ranching lands with associated fences and structures.

Mitchell Mountains Subregion

This subregion has few roads and trails, scattered historic mines, key communication sites on peaks, no springs; significant vista from top of Mitchel Mountain. Intensive use from urban interface includes recreation shooting, OHVs, 4x4s, mountain biking, running, hiking, dog walking, equestrian use, and geo-caching. People commonly wander and explore into fringes along city edge.

The subregion contains 13,925 acres of designated desert tortoise Critical Habitat and the majority of the subregion is located within the Superior-Cronese DWMA. This subregion also includes the occurrence of two special status plant species (Barstow woolly sunflower and Mojave monkeyflower) have been documented within this subregion.

Calico Mountains Subregion

The Calico Mountains subregion includes the rocky, rugged, colorful Calico Hills and historic mining town; Coyote dry lake in the north portion (closed). The area is very popular for target shooting, riding OHVs and general exploration. Numerous roads, trails, mines, adits, and diggings are popular for groups, jeep clubs, SRPs, exploration, hiking, equestrian, 4x4 touring

and OHV play. The town includes stores, historic cemetery, restaurants, and campground, and is popular with regional, national and international tourists; there is a KOA campground at the freeway. More activities include climbing, photography, painting and commercial photography.

The subregion contains 29,132 acres of designated desert tortoise Critical Habitat and the majority of the subregion is located within the Superior-Cronese DWMA. This subregion also includes the occurrence of two special status plant species (Mojave monkeyflower and Parish's phacelia) have been documented within this subregion.

Cronese Lake Subregion

The Cronese Lake subregion, located approximately 20 miles northeast of Barstow, California, is defined by the Fort Irwin Military Reservation (National Training Center) on the north, Interstate-15 on the south, the Calico Mountains on the southwest, and the Soda Mountains Wilderness Study Area (WSA) on the east. The extensions of this subregion consist primarily of public lands on either side of the Soda Mountains WSA. This area is remote and rugged with numerous jagged mountains and ranges, scattered small playas, and dry upland desert lands. There are few roads, vast Soda Wilderness Study Area, occasional communication sites, power, pipe and communication lines; mountaintop communication sites and few other developments. Similar to the Afton subregion, this is an ancient, historic and modern day east-west travel corridor and includes portions of Old Spanish National Historic Trail, Mormon Rd, Route 61 and Hwy15. This is the primary path travel and trade corridor between the west coast and all points east. Cronese Lake was the western border of the Anasazi Empire. The area includes a tank trail.

Coyote Dry Lake, Alvord Mountain, and a portion of the Calico Mountains are found within the subregion. Elevations range from 1,700 to 3,600 feet.

The Calico Early Man Site is found at the south end of the subregion. This National Register Property was designated as an ACEC by the 1980 CDCA Plan. A management plan was prepared in 1984. The plan designated a network of vehicle access routes, a network designed to protect the evidence of ancient human occupation.

This subregion is located within the Superior-Cronese DWMA. Additionally, it contains 81,754 acres of designated desert tortoise Critical Habitat.

Primary recreation activities and resource uses occurring in the area are powerline and pipeline rights-of-way, wildlife habitat, cattle grazing, recreational mining, rockhounding, hiking, upland gamebird hunting, and off-highway vehicle use restricted to open routes of travel. The recommended route network provides vehicle access for all of these, as well as for access to each block of non-federal land within the area.

B.6 Travel Management Area 6

Kramer Hills Subregion

The Kramer subregion is located south of State Highway 58, between the cities of Hinkley and Kramer Junction. State Highway 58 and Edwards Air Force Base bound the subregion on the north, State Highway 395 on the west, and private lands to the east and south. The Kramer subregion encompasses a total of approximately 133,129 acres, which consists of 84,020 acres

(63 percent) federal land managed by the BLM, and 49,109 acres (37 percent) private and State land.

The Kramer subregion is largely an area of alluvial soils and low rolling hills incised by braided, seasonal washes draining toward the Mojave River. Elevations range from 2,273 feet to 3,021 feet. The Kramer Hills, Iron Mountain, and Buckthorn Wash are found within the subregion. The Kramer Hills provide the most topographically varied portion of the subregion, and consist of low-lying, rolling hills composed of a complex of sedimentary and volcanic rocks. Iron Mountain, located in the northeastern portion of the subregion, also provides prominent areas of topographic relief. Most of the subregion is covered with creosote bush scrub and saltbush scrub plant communities. Joshua trees are scattered throughout the Kramer Hills and upper washes, in association with creosote and cholla.

Approximately 65,662 acres of the subregion is designated desert tortoise Critical Habitat. Additionally, the majority of the subregion is within the Fremont-Kramer DWMA, an Area of Critical Environmental Concern to conserve desert tortoise and enhance its habitat. In addition to the desert tortoise, other sensitive resource values include a portion of the Harper Lake Mojave Ground Squirrel Leitner Population along the northeastern boundary of the subregion.

State Highway 58 on the north and U.S. Highway 395 on the west provide access to the subregion. Several public roads are located within the subregion including Shadow Mountain Road, Harper Lake Road, and Helendale Road.

Current land uses include routes for several power lines and gas pipelines, as well as scattered homesteads. Recreational uses within the subregion include primarily OHV activity, and rockhounding in the Kramer Hills. Primary recreation activities and other resource uses occurring in the subregion are power line and pipeline rights-of-way, wildlife habitat, mining, hunting, and off-highway vehicle use restricted to open routes of travel.

The Kramer subregion includes portions of two grazing allotments. The majority of the subregion falls within the Stoddard Mountain grazing allotment. The southernmost portion of the subregion includes a small portion of the Buckhorn Canyon Allotment.

Mineral resources within the subregion are located primarily within Iron Mountain and the Kramer Hills. Gold has been produced at the Kramer Hills, which also includes occurrences of uranium, magnesite and feldspar. Considerable exploration of uranium occurred in the Kramer Hills during the 1970s. At Iron Mountain, limestone, marl, quartzite, and asbestos have been produced. In addition, there are occurrences of clay, copper, and mica in this area. The U.S. Geological Survey has classified the subregion as prospectively valuable for sodium, potassium, oil, and gas. Mining and homestead sites established in the late 19th and early 20th century exist in the area, some of which may have historical significance.

The suggested route network provides for vehicle access to the Kramer Hills, Iron Mountain, and other areas located throughout the Kramer subregion; provides access to sites appropriate to recreational target shooting; provides opportunities for general dispersed camping and back country touring; provides access through each of the primary upland gamebird hunting areas; provides access to popular rockhounding locations; provides access to known areas important for recreational mining; provides motorized access facilitating mountain bike recreation throughout the subregion; maintains vehicle access for a variety of terrain, a variety of trip lengths and access to remote areas for the equestrian community; provides the recreational OHV enthusiasts

a variety of opportunities from which to choose, and it maintains a substantial portion of the dual-sport network (for on-street/off-street motorcycles) which runs throughout the subregion.

Iron Mountain Subregion

The major landscape feature in the Iron Mountain subregion is the Mojave River along the TMA southern boundary. Trails and roads in this area are popular for equestrian riding, hiking, scenic touring, 4x4 exploration and OHV play; hunting, photography and bird watching. Features include the Old Spanish National Historic Trail, Mormon Rd., BNSF tracks, historic mines and old stage routes north to Harper and Death Valley.

Approximately 8,500 acres of the subregion is designated desert tortoise Critical Habitat. Additionally, the northwestern portion of the subregion is within the Fremont-Kramer DWMA, an Area of Critical Environmental Concern to conserve desert tortoise and enhance its habitat. In addition to the desert tortoise, other sensitive resource values include a portion of the Harper Lake Mojave Ground Squirrel Leitner Population along the northwestern boundary of the subregion.

El Mirage Subregion

The El Mirage subregion, located northwest of the community of Adelanto and due north of BLM's El Mirage Off-Highway Vehicle Area is defined by Edwards Air Force Base to the north and west, State Highway 395 to the east, and the El Mirage Off-Highway Vehicle Area immediately to the south. The western boundary is not well defined, consisting of private and Federal lands. The subregion is located in both Los Angeles and San Bernardino Counties.

The Shadow Mountains, in the southwestern corner, trend northwest-to-southeasterly, and have a maximum elevation of 3,996 feet. The greater area is characterized by bajadas, dry lakebeds, washes, rugged hills, and desert mountains. Vegetation consists of three basic types, creosote bush scrub, saltbush scrub and alkali sink scrub, all of which are typical of the western Mojave Desert. Creosote bush scrub is by far the dominant vegetative type.

Approximately 26,934 acres of the subregion is designated desert tortoise Critical Habitat. Additionally, the entire subregion is within the Fremont-Kramer DWMA, an Area of Critical Environmental Concern to conserve desert tortoise and enhance its habitat.

Primary recreation activities and resource uses occurring in the area are powerline and pipeline rights-of-way, rockhounding, cattle grazing, recreational mining, upland gamebird hunting, hiking and camping, wildlife habitat, and off-highway vehicle use restricted to open routes of travel. Particular designated routes provide access to various blocks of non-federal land within the area.

Victorville Subregion

Approximately 500 acres of the subregion is designated desert tortoise Critical Habitat. Additionally, a small portion of the subregion at the northern border overlaps within the Fremont-Kramer DWMA, an Area of Critical Environmental Concern to conserve desert tortoise and enhance its habitat.

B.7 Travel Management Area 7

El Paso Subregion

The El Paso subregion, located approximately 10 miles southwest of Ridgecrest, is defined by the El Paso Mountains wilderness area and "old" U. S. 395 to Inyokern on the north, U.S. Highway 395 on the east, the Garlock Road and Red Rock Canyon State Park on the south, and Highway 14 on the west. The subregion is 83,474 acres in size, with 92% federal land (76,998 acres) managed by the BLM and 8% private and state land (6,475 acres). Numerous landowners own the private lands. The El Paso Mountains wilderness is surrounded by this subregion on three sides.

The region consists of prominent volcanic peaks (El Paso Mountains), broad valleys, rolling foothills, badlands, sloping bajadas, braided washes, and narrow canyons. Elevations range from 2,000 feet on the southern boundary to 5,244 feet above sea level on top of Black Mountain. Creosote bush scrub and saltbush scrub are the predominant plant communities in the lowlands, with numerous desert washes, remnant stands of native perennial bunchgrasses on the mountain tops, scattered Joshua tree woodland, and small riparian plant communities at a few of the widely spaced springs.

The El Paso Mountains contain three West Mojave endemic plants: Red Rock poppy, Red Rock tarplant and Charlotte's phacelia. They are well known as a raptor nesting area and support abundant populations of upland game birds.

Approximately half of the subregion is made up of designated desert linkage networks, crucial to the conservation of special status wildlife species. A small portion of the subregion contains desert tortoise Critical Habitat (approximately 68 acres) at the southern border. The subregion is also located within the boundaries of key Mohave ground squirrel populations described as the Little Dixie Wash, Fremont Valley/Teagle, and Ridgecrest populations.

Primary resource uses occurring in this subregion are: domestic sheep grazing, mineral exploration, utility corridor maintenance, communication site maintenance, and various recreational activities. The BLM's CDCA Plan identified four sites within the subregion with excellent potential for interpretation and education: Burro Schmidt's Tunnel; the El Paso Mountains; the Garlock Fault; and the Goler Grabben.

In particular, the El Paso Mountains are heavily used for a variety of recreational activities. The area contains excellent opportunities for upland game bird hunting (chukar and Gambel's quail) and rock and mineral collecting. Other activities include recreational vehicle touring/sightseeing, dispersed hiking and camping, mountain biking, and equestrian recreation.

The subregion is also used for commercial 4-wheel drive and dual sport motorcycle tours and competitive equestrian endurance rides.

Ridgecrest Subregion

The Ridgecrest subregion, located south and east of the city of Ridgecrest, is defined by U.S. Highway 395 and the boundary of the Spangler Hills Open Area on the south; the city of Ridgecrest and the China Lake Naval Air Weapons Station on the north and west; and BLM Route RM 138 on the east. 22,465 acres in size, the area is 94% (21,115 acres) Federal land

managed by the BLM and 6% (1,350 acres) private land. Numerous landowners own the private lands.

The general region consists of the rolling Rademacher and Spangler Hills. Sloping bajadas, braided washes, and narrow canyons characterize the general topography. Elevations range from 1,900 feet at the northeastern point of the subregion, to over 3,400 feet above sea level in the hills directly south of the City of Ridgecrest in the western portion of the subregion. Creosote bush scrub is the predominant plant community in the subregion, with cheesebush-dominated plant communities found in the washes, remnant stands of native perennial bunch grasses on the mountain tops and scattered Joshua trees. The subregion also located within the boundaries of key Mohave ground squirrel populations described as the Fremont Valley/Teagle population to the south and Ridgecrest population to the north.

The subregion contains two livestock grazing allotments. The Spangler Hills Allotment is located in the eastern-most portion of the subregion. This allotment is identified by the 1980 Desert Plan as an ephemeral allotment requiring a minimum of 200 pounds of dry vegetation per acre before the livestock are turned out to graze. The Cantil Common Allotment, an ephemeral grazing allotment, covers the remainder of the subregion. Sheep grazing occurs in the area in the spring when the annual vegetation meets the minimum requirements. The northern portion of the subregion contains a portion of the Centennial Wild Horse and Burro Herd Management Area.

The BLM's Mineral Resource Potential Classification identifies most of the subregion as having a moderate potential for the occurrence of placer and lode gold deposits, with a high potential for placer, principally hydrothermal lode gold deposits, identified in the western area of the subregion (Rademacher Mining District). In addition, there is a high potential for construction aggregates (sand and gravel) in the western portion of the subregion, with aggregates mined at the Bowman and Inyokern pits outside the western boundary. There are no active mining operations in the subregion filed under the California Surface Mining and Reclamation Act of 1975 (SMARA), based on reports from the California Division of Mines and Geology. Some interest has been expressed in the far western portion of the subregion as evidenced through mining claim locations. BLM records show, as of March 2001, that there are six lode-mining claims and six placer mining claims in this portion of the subregion in the Rademacher Hills. There is one plan of operation and one pending (April 2001) notice level operation in the Rademacher Hills area of the subregion filed pursuant to the regulations at 43 CFR 3809. There are no aggregate resources being developed within the subregion, and the subregion is not valuable, prospectively or otherwise, for Leasing Act minerals.

A utility corridor crosses the northern portion of the subregion, in an east/west direction. This corridor contains existing facilities.

The Ridgecrest Subregion supports a wide variety of recreation opportunities and experiences including, but not limited to, four wheel drive and motorcycle touring, hunting and target shooting, paintball, stargazing, photography, exploring mining sites, social gatherings, rockhounding, hiking and running, limited dispersed camping, mountain biking and equestrian recreation.

The most prominent recreation feature in the subregion is the Rademacher Hills, located south of the City of Ridgecrest. The Rademacher Hills offer a 12.5-mile network of trails open to hiking, jogging, horseback riding and mountain biking. This area forms the backdrop for the City of Ridgecrest and provides an urban-public land interface that is fast becoming a popular recreation

site for local residents. Motorized trails through the Rademacher Hills provide access from the City of Ridgecrest to the 57,000 acre Spangler Hills OHV Area. A link to the Statewide Motorized Discovery Trail is proposed to connect the trail to the City of Ridgecrest through the Rademacher Hills.

The subregion is also used by a variety of recreation permit holders who use the public lands for mountain bike races, ultra-marathon running events, high school cross country running competitions, equestrian trail rides and endurance events, dual sport motorcycle tours, jeep tours, and other activities.

The area is used for commercial 4-wheel drive and dual sport motorcycle tours and competitive equestrian endurance and mountain bike events.

Red Mountain Subregion

The Red Mountain subregion, located approximately 20 miles southeast of Ridgecrest, is defined by U.S. Highway 395 and the Kern County line on the west; the Spangler Hills Off-Highway Vehicle Management Area on the north; the China Lake Naval Air Weapons Station B Range on the east; and the Barstow Field Office management boundary on the south. 120,199 acres in size, the area is 82% (98,043 acres) Federal land managed by the BLM and 18% (22,156 acres) private and State land. Numerous landowners own the private lands. The subregion borders the Golden Valley and Grass Valley wilderness areas.

Elevations in the subregion range from 2,568 feet on the Cuddeback Playa to 5,260 feet on Red Mountain. Creosote bush and Mojave saltbush are the predominant plant communities in the lowlands, with cheesebush-dominated plant communities found in the washes, remnant stands of native perennial bunch grasses on the mountaintops and scattered Joshua tree woodland.

Nearly half of the subregion is made up of designated desert linkage networks, crucial to the conservation of special status wildlife species. The subregion contains approximately 111,357 acres of desert tortoise Critical Habitat. In addition to known desert tortoise populations, the subregion is also located within the boundaries of key Mohave ground squirrel population centers described as the Fremont Valley/Teagle and Pilot Knob populations.

The subregion is used for commercial 4-wheel drive and dual sport motorcycle tours and competitive equestrian endurance rides. Further, additional activities in the subregion include commercial filming, mineral exploration, utility corridor maintenance, recreational vehicle touring/sightseeing, dispersed hiking and camping, and upland game bird hunting.

Superior Valley, Monolith Cantil, Lava Mountains, and Pilot Knob are grazing allotments located within the subregion. The first three are ephemeral sheep allotments, and the Pilot Knob Allotment is an ephemeral cattle allotment, which is currently leased to the Desert Tortoise Preserve Committee. Sheep grazing is not currently allowed in the majority of tortoise critical habitat.

The BLM's mineral resource potential classification shows a moderate potential for the occurrence of placer gold deposits in the Randsburg and Atolia mining districts. A high potential for lode and placer gold occurs immediately outside the south boundary of the subregion. There are no active mining operations in the Red Mountain Subregion based on reports from the California Division of Mines and Geology filed under the California Surface Mining and Reclamation Act of 1975 (SMARA). BLM records show, as of March 2001, there are eight lode-

mining claims north and west of Randsburg, and two lode claims located on some older workings on a small hill west of the Black Hills.

There are approximately 246 placer mining claims in the subregion. The placer claims are clustered in the center of the subregion, with dense clusters in the Atolia mining district and at the Summit Diggings area south of the Summit Range. Small clusters of placer claims are also located in the center of the subregion near Blackhawk Well. Most of the placer mining claims are association placers, each aggregating about 160 acres. As of March 2001, there were five plans of operation and eleven notice level operations authorized by BLM in the subregion pursuant to 43 CFR 3809. Most were approved for small placer operations in the Summit diggings area or assessment work in the remaining area of the subregion.

A utility corridor crosses the western portion of the subregion, running parallel to Highway 395. The corridor contains existing facilities.

Various opportunities for outdoor recreation are present in the subregion. Some of the best upland game bird hunting in the eastern Kern and San Bernardino Counties is available in the Lava Mountains, Red Mountain and Blackwater Well areas. During years when winter rainfall is suitable, seasonal wildflower displays are exceptional in the Golden Valley and Grass Valley areas. Red Mountain Spring (formerly called Squaw Spring) and Steam Well are two cultural heritage sites in the subregion. Both of these sites contain rock art. A route proposed for the California Statewide Discovery Trail crosses from south to north.

Other recreational opportunities and experiences available in the Red Mountain subregion include dispersed camping; four wheel drive and motorcycle touring; target shooting; rock hounding; hiking in the Golden Valley wilderness and climbing Red Mountain; mountain biking and equestrian recreation; and land sailing on Cuddeback Dry Lake. Several outfitters also use the area for recreational activities operated under recreation use permits including equestrian endurance rides, dual sport events and jeep tours.

Commercial filming in the subregion occurs primarily on Cuddeback Dry Lake where an average of 15 permits a year is issued for advertising and motion picture projects.

Rands Subregion

The bajadas, alluvial fans, and undulating hills that lie between the towns of Randsburg and California City along with scattered sections of land south of California City within eastern Kern make up the Rands subregion. Recreational activities within the region include OHV trail riding and touring, upland game bird hunting, rock hounding, gold prospecting, hiking, nature study, and photography. Popular destination locations include the Desert Tortoise Research Natural Area, Government Peak, and the living ghost town of Randsburg.

The subregion contains approximately 52,676 acres of desert tortoise Critical Habitat. In addition to known desert tortoise populations, the subregion is also located within the boundaries of the key Mohave ground squirrel populations centers described by Leitner as the Fremont Valley/Teagle and Boron Extension populations. Other known Mohave ground squirrel populations within the subregion include the Boron/Kramer Junction and Desert Tortoise Natural Area populations.

Occasionally vehicle trespass into the Desert Tortoise Research Natural Area is of concern. This issue has lessened over time with fencing being completed around the area and volunteer and staff patrolling the perimeter to maintain the fence.

Due to the scattered nature and small amount of public lands within the southern portion of this subregion an access concern for this area is ensuring that our network connects with those already in place being managed by the local municipalities and other government agencies.

B.8 Travel Management Area 8

Newberry-Rodman Subregion

The Newberry/Rodman subregion, located just south of Newberry Springs, California, is defined by Interstate-40 on the north, the Twentynine Palms Marine Corps Base and the Johnson Valley Off-Highway Vehicle Area on the south, and Camp Rock Road on the west. The subregion is 81,585 acres in size, with 73.6% Federal land (60,012 acres) managed by the BLM and 26.3% private and State land (21,481 acres). Catellus Development Corporation is the primary private landowner.

The general region consists of two small rugged mountain ranges and the surrounding foothills, valleys, sloping alluvial fans, washes, lava flows, and canyons. The entire area shows evidence of volcanic geologic activity, which provides for dramatic views. Elevations range from 1,800 feet to 5,100 feet in the Newberry Mountains. Creosote bush scrub is the predominant plant community in the lower elevations, with a desert willow-dominated plant community found in the dry desert washes, and remnant stands of perennial bunchgrasses in the higher elevations. Joshua tree woodland and small, riparian plant communities may also be found here in select locations. Many raptor nesting sites are found in the region. Kane Wash, which runs in a southwesterly to northeasterly direction, bisects the subregion, separating the Newberry Mountains wilderness and the Rodman Mountains wilderness. Access to this subregion is from Interstate-40, a power line road to the southeast, and Camp Rock Road on the west side.

A wide diversity of cultural site types are found here, some of which are associated with a National Register District. The Serrano tribe lived in the region, resulting in rock art and other cultural sites. Parts of the Rodman Mountains are designated as an ACEC to protect cultural resources. Additionally, approximately 2,000 acres within the subregion are designated as an ACEC to protect the Mojave monkeyflower. Most of this area is within the Rodman Mountains Wilderness. The subregion contains approximately 101,326 acres of designated Critical Habitat for the desert tortoise. In addition to the desert tortoise, the prairie falcon and the golden eagle are found in the subregion, and the area is a potential reintroduction area for bighorn sheep. The Ord Mountain grazing allotment is located in the subregion. Much of the area is highly scenic in character, and both hiking/backpacking and upland gamebird hunting opportunities are plentiful.

Primary recreation activities and other resource uses occurring in the subregion are cattle grazing, mineral exploration/production, utility corridor maintenance (2 major utility corridors), communication site maintenance, recreational vehicle touring/sightseeing, dispersed hiking and camping, equestrian recreation, upland gamebird hunting, and rockhounding.

The Ord grazing allotment is located within this subregion. This allotment consists of 154,848 acres, of which 14,820 are private.

In regards to mineral values in the subregion, construction materials (crushed rock, sand and gravel) are being produced from the northwest area of the Newberry Mountains (Cal West Quarry). There has been production of placer gold at the Camp Rock mine. Cinders have and are being produced from Pipkin cinder cone (Malpais Crater) in the south-central part of the subregion. Borates (Fort Cady Minerals) and specialty clays (Rheox) are being produced in the eastern part of the subregion. BLM classified the western portion of the subregion as having a moderate to high potential for the occurrence of copper, silver, lead, tungsten and gold based on past exploration and production. The eastern portion of the subregion has a high potential for borate minerals and clay deposits.

A utility corridor runs along the northern boundary of the subregion, while another utility corridor crosses from north to south.

Excellent hiking/backpacking and upland game hunting opportunities exist in the Newberry and Rodman Mountains. There are three highly rated interpretive sites within the subregion, the Newberry Mountain Caves, Pipkin Cinder Cone, and the Rodman Mountain petroglyphs. Other federal plans relating to this subregion include the Johnson Valley Off-Highway Vehicle Area Management Plan.

The suggested route network provides for vehicle access for these resource uses and recreational activities. Further, they provide access to each block of non-federal land within the subregion.

Ord Mountains Subregion

The Ord subregion, located southeast of Barstow, California, is defined by State Highway 247 on the west, the U.S. Marine Corps Firing Range on the north, Camp Rock Road on the east, and greater Lucerne Valley on the south. The Newberry Mountains Wilderness lies immediately to the northeast, the Johnson Valley and Stoddard Valley Off-Highway Vehicle Areas to the southeast and northwest respectively, and private land of Lucerne Valley to the south.

Apart from the portion north of Power Line Road and a small portion to the south, the subregion consists of the BLM's Ord Mountain Route Designation Pilot Planning Unit. The Planning Unit consists of approximately 126,000 acres, located between the Stoddard Valley and Johnson Valley Off-Highway Vehicle Areas. As such, it is a popular connector between the two. In early 1995, the Ord Mountain Pilot Project was initiated as an opportunity to conduct OHV route planning and vehicle access planning for the West Mojave Plan.

The subregion includes three important desert peaks in close proximity to one another, Ord Mountain, East Ord Mountain, and West Ord Mountain; as well as Daggett Ridge and portions of East Stoddard Valley and North Lucerne Valley. Elevations in the area range from 2,500 feet to 6,309 feet above sea level.

The Ord Mountain area consists of valleys, rolling and jagged hills, sloping bajadas, braided washes, and barren playas. The creosote brush scrub plant community is the dominant vegetative assemblage found within the subregion. Plant species within this community include creosotebush, burrobush, Mormon tea, allscale saltbush, golden cholla, and beavertail cactus. A BLM sensitive species, the Mojave monkeyflower, is found here and approximately 23,000 acres within the subregion are designated as an ACEC to protect this species.

The subregion contains approximately 106,574 acres of designated Critical Habitat for the desert tortoise. Other reptile fauna found in the area include desert banded gecko, desert horned lizard,

rosy boa, and Mojave rattlesnake. Notable avian species include golden eagle, prairie falcon, roadrunner, burrowing owl, and loggerhead shrike. Mammalian fauna include desert woodrat, antelope ground squirrel, black-tailed jackrabbit, kit fox, and coyote.

Primary recreation activities and resource uses occurring in the area are cattle grazing, powerline and pipeline rights-of-way, rockhounding, rock climbing, communication sites, camping, hiking, wildlife habitat, mining and recreational mining, hunting, and off-highway vehicle use restricted to open routes of travel.

The Ord Planning Unit consists of a precise vehicle network, restricting access to only essential routes of travel; all other historical routes are either closed or are limited to access by certain individuals for specific reasons, such as maintenance crews and ranch operators.

The recommended route network provides for vehicle access to the following features. Stoddard Valley Off-Highway Vehicle Area, to the west, and Johnson Valley Off-Highway Vehicle Area, to the southeast. In addition to these, the historic Ord Mountain Road and the Daggett Wash Road are accessible by four-wheel-drive vehicles and motorcycles. Mining operators used these two historic roads to haul their ore to the railhead in Daggett, California. Hercules Rock, on the south of the subregion, is a popular destination for rock climbers.

In addition, the network provides for access to the boundary of the Newberry Mountains wilderness, to the east; vehicular travel is not permitted within wilderness, but hiking, camping, and horseback riding are encouraged.

Many visitors to this area take advantage of the many hunting opportunities for small game birds found here. Hunting is enhanced in the region by a variety of water sources to be found here, including springs and guzzlers.

The recommended route network also provides access to various blocks of non-federal land within the area.

Johnson Valley Subregion

The major feature in the Johnson Valley subregion is the Johnson Valley OHV Area designated for 4x4 and OHV use, including exploration, touring, play and competition. The area is popular for large scale OHV events and competitions. It includes the Cougar Buttes area popular with trials bike SRP events and commercial filming. The area includes dry lakebeds, lava flows, rugged mountains, long valleys, springs, Creosote and Yucca Ring plan assemblies, and extensive and large scale mine operations. Sensitive areas are closed and fenced; signs, kiosks and visitor patrols help guide visitors and protect sensitive resources.

The subregion contains approximately 5,000 acres of designated Critical Habitat for the desert tortoise, as well as the occurrence of other sensitive species such as the golden eagle, Le Conte's thrasher, western mastiff bat, and Little San Bernardino Mountains Linanthus.

Stoddard Valley Subregion

The Granite subregion, is defined by State Highway 247 on the east, the Stoddard Valley Off-Highway Vehicle Area on the north, private lands on the west, and private lands on the south. The Granite Mountains, Sidewinder Mountain, North Lucerne Valley, and Stoddard Ridge are all found within this subregion. Elevations range from 3,000 feet to 4,900 feet.

The subregion contains the occurrences of sensitive wildlife species including the Bendire's thrasher, burrowing owl, golden eagle, Le Conte's thrasher, Mojave fringe-toed lizard, western mastiff bat, Barstow woolly sunflower, Mojave monkeyflower, and Parish's phacelia. ACECs within the subregion have been set-up to protect sensitive species including the Bendire's thrasher, Mojave fishhook cactus, and Mojave monkeyflower.

Primary recreation activities and resource uses occurring in the area are cattle and sheep grazing, powerline and pipeline rights-of way, rockhounding, communication sites, hiking, camping, wildlife habitat, mining and recreational mining, hunting, and off-highway vehicle use restricted to open routes of travel.

Some designated routes provide access to many blocks of non-federal land within the area.

APPENDIX C

SPECIAL-STATUS SPECIES

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Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Mammals					
Bighorn Sheep (*Ovis canadensis nelsoni*)	BLM-S	Bighorn sheep require a variety of habitat characteristics and prefer areas on or near mountainous terrain that are visually open, as well as steep and rocky. Alluvial fans and washes in flatter terrain are also used for forage and water and as connectivity habitat between more rugged areas. Aerial surveys in 2009 and 2010 documented 1,022 bighorn sheep, including ewes, lambs, and rams, in the following mountain ranges: Marble Mountains; Clipper Mountains; Kelso Peak and Old Dad Peak; Clark, Kingston, and Mesquite Mountains; Orocopia Mountains; Sheephole Mountains; South Bristol Mountains; Cady Mountains; White Mountains; and San Gorgonio Mountains.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Mohave Ground Squirrel (*Xerospermophilus mohavensis*)	BLM-S; ST	Range: Endemic to California, the Mohave ground squirrel is exclusively found in the northwestern Mojave Desert in San Bernardino, Los Angeles, Kern, and Inyo counties. Habitat: The MGS generally occurs in flat to moderate terrain and is not found in steep terrain. Substrates in occupied habitats have ranged from being very sandy to, less frequently, very rocky.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
California Leaf-Nosed Bat (*Macrotus californicus*)	BLM-S; SSC	Range: In California, the California leaf-nosed bat occurs in the desert regions of eastern San Bernardino (i.e., excluding the western Mojave region), Riverside, and San Diego counties and all of Imperial County. The recent records for this species are generally concentrated in southern portions of the planning area, including several records for Joshua Tree National Park, with four roost sites observed. Habitat: The California leaf-nosed bat is primarily a cave and mine dwelling species, but also occupies buildings.	No	No. No further analysis for this species for the proposed action.	BLM 2005; Dudek and ICF International 2012
Hoary Bat (*Lasiurus cinereus*)	None	Range: The hoary bat winters in Southern California There are no recent (i.e., since 1990) records of occurrence for this species within the planning area, but historic records indicate occurrence near Hesperia and Joshua Tree National Park.	Yes	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		Habitat: This species typically roosts in tree foliage and sometimes cavities. Suitable habitat exists for this species within the planning area.			
Long-legged Myotis (*Myotis volans*)	None	Range: The Dale Mining District in the Pinto Mountains, including portions of Joshua Tree National Park, contains many shafts and adits known to harbor bats of several species. Six significant roosts have been located, and the potential for several more is present. Habitat: The long-legged myotis is primarily a tree-dweller occurring at higher elevations than those found in the planning area.	No	No. No further analysis for this species for the proposed action.	BLM 2005
Pallid Bat (*Antrozous pallidus*)	BLM-S; SSC	Range: The known occurrence data for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.4, pp. 3-169 to 3-170. Habitat: In desert habitats, pallid bats roost mostly in rock crevices, although they might be found in tree cavities, old buildings, under bridges, in caves and mine adits, and mud tubes when these sites are available.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Spotted Bat (*Euderma maculatum*)	BLM; SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.4, pp. 3-169 to 3-170.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005
Western Mastiff Bat (*Eumops perotis*)	BLM; SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.4, pp. 3-169 to 3-170.	Yes	Yes. Suitable habitat has been documented for this species within	BLM 2005; Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
				the proposed action area on BLM lands.	
Townsend's Big-eared Bat (*Corynorhinus townsendii*)	BLM; SSC	Range: The known occurrence data for this species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.4, pp. 3-169 to 3-170. Habitat: The Townsend's big-eared bat is a colonial cave dwellers thought to have declining populations. The Townsend's big-eared bat is dependent on riparian habitat within five miles of the roosts.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Fringed Myotis (*Myotis thysanodes*)	BLM-S	Range: The fringed myotis is widespread in California, with its range occurring along the western and northern boundaries of the planning area. Habitat:The fringed myotis occurs in a wide variety of habitats, but optimal habitats include pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally at 1300-2200 m (4000-7000 ft). This species roosts in caves, mines, buildings, and crevices.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Zeiner, D.C. et al 1988-1990
Western Small-footed Myotis (*Myotis ciliolabrum*)	BLM-S	Range: This species occurrs from on the west and east sides of the Sierra Nevada, and in Great Basin and desert habitats from Modoc to Kern and San Bernardino counties, with its range occurring along the western and northern boundaries of the planning area. Habitat: This species roosts in caves, mines, buildings, and crevices and is a common resident of arid uplands in California	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Zeiner, D.C. et al 1988-1990
Western Red Bat (*Lasiurus blossevillii*)	BLM; SSC	Range: Breeding are from the Sacramento and San Joaquin rivers, with other breeding records from the San Diego, Santa Ana, and Los Angeles rivers. There are no records of occurrence for this species within the planning area, but suitable habitat exists for this species.	Yes	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		Habitat: The western red bat, as a tree bat, is closely associated with well-developed riparian habitats that provide suitable roosting sites.			
Mojave River Vole (*Microtus californicus mohavensis*)	SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.5.2, pg. 3-172.	No	No. No further analysis for this species for the proposed action.	BLM 2005
Yellow-eared Pocket Mouse (*Perognathus xanthonotus*)	BLM-S	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.5.3, pg. 3-172.	Yes	No. No further analysis for this species for the proposed action.	BLM 2005
Birds					
Bendire's Thrasher (*Toxostoma bendirei*)	BLM; SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.1, pg. 3-173.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005
Brown Crested Flycatcher (*Myiarchus tyrannulus*)	SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.2, pp. 3-173 to 3-174.	No	No. No further analysis for this species for the proposed action.	BLM 2005

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Burrowing Owl (*Athene cunicularia*)	BLM; SSC	Range: In California, the burrowing owl's range extends throughout the lowlands from the northern Central Valley to the U.S.–Mexico border, with large populations in the Imperial Valley region of southeast California (Gervais et al. 2008) and a small (perhaps extirpated) population in the Great Basin bioregion in northeast California. Habitat: This species requires habitats with three basic attributes: open, well-drained terrain; short, sparse vegetation generally lacking trees; and underground burrows or burrow-like structures.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Ferruginous Hawk (*Buteo regalis*)	SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.4, pg. 3-174.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005
Golden Eagle (*Aquila chrysaetos*)	BLM-S; SFP	Range: There are golden eagle concentrations in the west Mojave, the region between Victorville and Barstow east on I-15, the Mojave National Preserve, and the eastern portion of Joshua Tree National Park. The BLM identified "Key Raptor Areas" for golden eagles encompassing the Granite, El Paso, Newberry, and Red mountains (Raptor Research Foundation 1989), as well as important occupied habitat in the Clark Mountain Range and Calico Mountains. Habitat: In California, golden eagles inhabit open grasslands and oak savanna, but can also be found in desert grasslands and chaparral habitats. Secluded cliffs with overhanging ledges and large trees are used for nesting and cover.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Gray Vireo (*Vireo vicinior*)	BLM; SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this	Yes	Yes. Suitable habitat has been documented for	BLM 2005

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		species, please refer to Section 3.3.6.6, pp. 3-175 to 3-176.		this species within the proposed action area on BLM lands.	
Inyo California Towhee (*Pipilo crissalis eremophilus*)	FT; SE	Range: Southern Argus Range and the upland areas immediately surrounding them. Recent records for this species are generally concentrated north of Ridgecrest within the planning area. Habitat:The principal habitat consists of dense riparian willow thickets along a few isolated streams, springs, and rocky canyons.	Yes	No. No further analysis for this species for the proposed action.	BLM 2005; Dudek and ICF International 2012
LeConte's Thrasher (*Toxostoma lecontei*)	SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.8, pg. 3-177.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005
Long-eared owl (*Asio otus*)	SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.9, pp. 3-177 to 3-178.	Yes	No. No further analysis for this species for the proposed action.	BLM 2005
Prairie Falcon (*Falco mexicanus*)	SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.10, pg. 3-178.	Yes	No. No further analysis for this species for the proposed action.	BLM 2005

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Southwestern Willow Flycatcher (*Empidonax traillii* extimus)	FE; SE	Range: In addition to the known breeding sites documented it the 2005 WEMO Final EIS (Section 3.3.6.11, pp. 3-178 to 3-179), the CNDDB contains one historical (i.e., pre-1990) occurrence for the southwestern willow flycatcher located north of Independence in Inyo County (CDFG 2012b). Four additional historical occurrences for willow flycatchers (subspecies not identified) are located in the vicinity of the cities of Mojave and California City (Dudek 2011). Habitat: In California, the southwestern willow flycatcher is restricted to riparian habitats occurring along streams or in meadows.	Yes	Yes. Suitable habitat for this species exists within the proposed action area.	BLM 2005; Dudek and ICF International 2012
Summer Tanager (*Piranga rubra*)	SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.12, pg. 3-179.	Yes	No. No further analysis for this species for the proposed action.	BLM 2005
Vermillion Flycatcher (*Pyrocephalus rubinus*)	SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.13, pg. 3-179 to 3-180.	Yes	No. No further analysis for this species for the proposed action.	BLM 2005
Western Snowy Plover (*Charadrius alexandrinus nivosus*)	SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.14, pg. 3-180.	Yes	No. No further analysis for this species for the proposed action.	BLM 2005
Western Yellow-billed Cuckoo (*Coccyzus americanus occidentalis*)	FC; BLM-S; SE	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.15, pg. 3-181.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Yellow-breasted Chat (*Icteria virens*)	SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.16, pg. 3-181.	Yes	No. No further analysis for this species for the proposed action.	BLM 2005
Yellow Warbler (*Setophaga petechia*)	SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.6.17, pp. 3-181 to 3-182.	Yes	No. No further analysis for this species for the proposed action.	BLM 2005
American Peregrine (*Falcon Falco peregrinus anatum*)	SFP	Range: Within the planning area, one historic nesting location has been documented within the BLM Ridgecrest Field Office Boundary. Additionally, eBird data within the species occurrence database includes numerous occurrences in the planning area dating back to 2003. The occurrences in the planning area generally occur north of Independence at the northern end of the planning area, and south in Inyo, near Lancaster. Habitat: Peregrine falcons in general use a large variety of open habitats for foraging, including tundra, marshes, seacoasts, savannahs, grasslands, meadows, open woodlands, and agricultural areas. Sites are often located near rivers or lakes.	Yes	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012
Bald Eagle (*Haliaeetus leucocephalus*)	BLM-S; SE; SFP	Range: The bald eagle's main breeding population in California is still largely restricted to the northern part of the state in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties. Populations in Southern California remain low with only two successful nests documented since the year 2000 on Santa Catalina Island, and none within the planning area. Habitat: Bald eagles typically occupy forested areas adjacent to large bodies of water.	Yes	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012
Bank Swallow (*Riparia riparia*)	BLM-S; ST	Range: Historic occurrences (i.e., pre-1990), or occurrences with unknown observation date, are located within the planning area. These include records in the following areas: north of Hesperia, Edwards Air Force Base, east of Barstow along the Mojave River, and west of Barstow near the town of Lockhart, evidently in association with wetlands marginal to Harper Dry Lake.	No	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		Habitat: Breeding habitat for the bank swallow in California consists exclusively of vertical banks or bluffs with friable soils suitable for burrow excavation by the birds.			
Least Bell's Vireo (*Vireo bellii pusillus*)	FE; SE	Range: Recent occurrence records of least Bell's vireo in the planning area in the following areas: near Lancaster and Palmdale, north of Hesperia, north of Victorville, and southwest of Yucca Valley. Habitat: This species is largely associated with early successional cottonwood-willow and are known to nest in riparian woodlands dominated by willow and Fremont cottonwood.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Dudek and ICF International 2012
California Condor (*Gymnogyps californianus*)	FE; SE; SFP	Range: The California condor occurs principally along the western edges of the planning area, specifically within the Tehachapi Mountains east of Interstate 5, the Wind Wolves Preserve and Bitter Creek and Hopper Mountain National Wildlife Refuges (NWRs), and portions of the Los Padres National Forest west of Interstate 5. Habitat: California condors nest in rock formations (crevices, overhung ledges, and potholes), and deep caves. Nesting has not been documented in the planning area; condor use of the planning area is limited to foraging and temporary roosting.	Yes	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012
Greater Sandhill Crane (*Grus canadensis tabida*)	BLM-S; ST; SFP	Range: The greater sandhill crane is considered a winter migrant through the planning area and a recent documented occurrence was located within the planning area in Kern County, south of Ridgecrest. Habitat: Greater sandhill cranes are found primarily in open freshwater wetlands, including shallow marshes and wet meadows.	Yes	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012
Mountain Plover (*Charadrius montanus*)	BLM; SSC	Range: Within the planning area, there are recent (i.e., since 1990) documented occurrences near Palmdale, west of Lancaster, and in the Harper Lake area.	Yes	No. No further analysis for this species for the	Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		Habitat: This species occupies open, flat lands or sparsely vegetated areas, including xeric shrublands, short-grass prairie, and barren agricultural fields.		proposed action.	
Swainson's Hawk (*Buteo swainsoni*)	BLM-S; ST	Range: There are multiple historical occurrence records in the planning area located east of Lancaster, north of Fremont Wash and east of SR 395 (CDFG 2012b; Dudek 2011). Recent Swainson's hawk breeding populations inside the planning area have occurred in the Antelope Valley and Owens River Valley. The vast majority of these occurrences are clustered in the western Mojave region along the base of the San Gabriel and Tehachapi mountain ranges and in Antelope Valley. Scattered occurrences are located in the Fremont Valley and the Ridgecrest/China Lake Naval Air Weapons Station. Habitat: Swainson's hawks are primarily a grassland bird but they are also found in sparse shrubland and open woodlands.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Dudek and ICF International 2012
Tricolored Blackbird (*Agelaius tricolor*)	BLM-S; SSC	Range: Breeding colonies occur in eastern Kern County from Ridgecrest along the base of the Tehachapi Mountains to Antelope Valley, around Palmdale and Lancaster in northeast Los Angeles County, and east of Barstow in San Bernardino County. There are 41 recent (i.e., since 1990) occurrences for the planning area (CDFG 2012b; Dudek 2011). These occurrences generally are located in the Lancaster/Palmdale area; in the southwestern portion of Edward Air Force Base; just north of SR 138; along SR 158 in the Tehachapi Mountain range foothills; west and south of Red Rock Canyon State Park; along the Trona Road cutoff north of SR 395; in the southern portion of the China Lake Naval Air Weapons Station north of Ridgecrest; and along the Mojave River east of Barstow. Habitat: Breeding tricolored blackbirds form large colonies, typically in freshwater wetlands dominated by cattails or bulrushes and thorny vegetation.	Yes	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012
White-tailed Kite (*Elanus leucurus*)	SFP	Range: Numerous sightings of white-tailed kite for the period of March through July have also been reported in the eBird database for the planning area. White-tailed kite have been observed at the following locations in the Antelope Valley: Holiday Lake (May 1994 near the community of Neenach);	Yes	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		Piute Ponds (most recently in July 2006 north of Lancaster); 60th Street East at East Avenue H and East Avenue G (May 1993 in Lancaster): 110th Street East at East Avenue J (May 1996); and Lake Palmdale (April 2007 in Palmdale). Habitat: White-tailed kites are associated with riparian, wetland, and irrigated habitats.			
Yuma Clapper Rail (*Rallus longirostris yumanensis*)	FE; ST; SFP	Range: All recent observations of this species are located outside the planning area to the south and west (Dudek and ICF International 2012). However, there is one historic occurrence documented within the planning area from 1977 at Harper Lake. Habitat: The Yuma clapper rail is the only rail known to breed in freshwater marshes and the preferred habitat consists of cattails and bulrush.	Yes	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012
Fish					
Mojave Tui Chub (*Gila bicolor mohavensis*)	FE; SE; SFP	Range: The current populations are located in primarily man-made or man-supported habitats. The population in Lark Seep is in a perennial body of water that is fed from the wastewater treatment facility in Ridgecrest, California. The population at Camp Cady is located in a man-made, lined pond that receives water from a pump. The populations at Soda Springs occur in two bodies of water, one is a man-made pond that receives water from a pump, and the other is an isolated spring on the edge of Soda Lake. The population at the Lewis Center is in two small man-made ponds withwater supplied from a pump, and at Morning Star Mine, the population is in a man-made pond created by a perched aquifer. Habitat: Historically, within the Mojave River, the Mohave tui chub was associated with deep pools and sloughs of the river and was not found very far into small tributaries.	Yes	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012
Reptiles/Amphibians					

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Tehachapi Slender Salamander (*Batrachoseps stebbinsi*)	BLM-S; ST	Range: The Tehachapi slender salamander is endemic to California and is reported to occur only in Kern County and Los Angeles counties. According to the USFWS 12-month review, there are two populations of the Tehachapi slender salamander that represent two DPSs of a single species: the Tehachapi Mountains DPS and the Caliente Canyon DPS, which together constitute the entire range of the species (76 FR 62900–62926). Habitat: The Tehachapi slender salamander inhabits moist canyons and ravines in oak and mixed woodlands.	Yes	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012
Mojave Fringe-Toed Lizard (*Uma scoparia*)	BLM-S; SSC	Range: This species is currently found within more than 35 named and unnamed sand dune complexes within the three major river drainages in the planning area: the Amargosa, Mojave, and Colorado rivers. Habitat: This species is an obligate sand-dweller, found in dunes, sand fields, sand hummocks, and other sand deposits throughout the Mojave Desert in California. Its elevation ranges from 300 to 3000 feet.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Desert Tortoise (*Gopherus agassizii*)	FT; ST	Range: It is anticipated that the desert tortoise will occur throughout the planning area, although its abundance may vary locally due to habitat characteristics, including anthropocentric disturbances. Habitat: The desert tortoise can be found in a wide variety of habitats, such as alluvial fans, washes, canyons, and saltbush plains. Occupied habitat for populations in the Western Mojave Desert includes valleys, bajadas, and hills with sandy loams to rocky substrates.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Southwestern Pond Turtle (*Clemmys marmorata pallida*)	BLM-S; SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.7.3, pp. 3-183 to 3-184.	No	No. No further analysis for this species for the proposed action.	BLM 2005

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Panamint Alligator Lizard (*Elgaria panamintina*)	BLM-S; SSC	This species would not change from the previous analysis included in the affected environment of the 2005 WEMO Final EIS (BLM 2005) and is not discussed further in this supplemental EIS. For a general discussion of this species, please refer to Section 3.3.7.4, pg. 3-184.	Yes	No. No further analysis for this species for the proposed action.	BLM 2005
Coast Horned Lizard/San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*)	BLM-S; SSC	Range: The coast horned lizard is a fringe species in relation to the planning area. Primarily sequestered on the coast and the coastal valleys, it spills over into the planning area in four principal locations: the Tehachapi (California Poppy Reserve) area, the Palmdale area, the Cajon Pass area, and the Morongo Valley/Little San Bernardino Mountain areas. Habitat: This species is found in a fairly wide variety of habitats within its range. These habitats can include various scrublands, grasslands, coniferous and broadleaf forests, and woodlands.	No	No. No further analysis for this species for the proposed action.	CNDD 2011; BLM 2005; Dudek and ICF International 2012
Northern Sagebrush Lizard *Sceloporus graciosus*)	BLM-S	Range: This species is widely distributed in montane chaparral, hardwood and conifer habitats, eastside pine and juniper habitats, and Great Basin shrub habitats of the Cascades and Sierra Nevada, and also east of the Sierra-Cascade crest in northern California. Isolated populations exist at Sutter Buttes in the Sacramento Valley, in the Coast Ranges along the entire length of the state, in the mountains of southern California, and in the desert mountains of Inyo County. Elevation: 900-3200 m (3000-10,400 ft). Habitat: The sagebrush lizard occurs in a wide variety of open forest and shrub habitat types and utilizes mammal burrows and rock crevices as hibernation sites during cold periods.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Zeiner, D.C. et al 1988-1990
Plants					

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Alkali Mariposa-lily (*Calochortus striatus*)	BLM-S	Range: Known mostly from California, with several occurrences in western Nevada. The Western Mojave comprises the majority of the species' range. Occurrences in the Plan Area include Red Rock Canyon, Edwards AFB, the Lancaster area, Box "S" Springs, Cushenbury Springs, Rabbit Springs, Paradise Springs, and Joshua Tree National Park. Population estimates are crude due to wide fluctuations in numbers from year to year, but Edwards AFB is estimated to host > 100,000 individuals with smaller, scattered populations occurring elsewhere. Habitat: Found in seasonally moist, alkaline habitats such as meadows, seeps and springs, washes, sinks, playas, along dune drainages, and on claypans. Substrate may be calcareous sandy or alkali soils. Found in chaparral, chenopod scrub, Mojavean desert scrub, and saltbrush scrub vegetation communities, with associated species including saltgrass, rushes, sedges (*Carex* spp.), beard grass (*Polypogon* sp.), dock, alkali sacaton (*Sporobolus airoides*), beardless wildrye (*Elymus triticoides*), dwarf checkerbloom (*Sidalcea malviflora*), rabbitbrush, Baltic rush (*Juncus balticus*), and small melilot (*Melilotus indicus*). Elevation range 224 to 5,240 feet amsl. Flowering April to June.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Amargosa Beardtongue (*Penstemon fruticiformis* var. *amargosae*)	BLM-S	Range: Known mostly from California (Inyo and San Bernardino Counties) and western Nevada (Nye and Clark Counties), with most of the occurrences in the vicinity of Death Valley. Occurrence in the Plan Area is limited to one population in the northeast corner. Population within the Plan Area estimated at approx. 20 to 58 individuals. Habitat: Found in rocky or sandy washes and adjacent slopes within steep-walled canyons. Substrate is sand or gravel soils. Found in Mojave Desert scrub and pinyon-juniper woodland vegetation communities, with associated species including desert almond (*Prunus fasciculata*), skunk bush sumac (*Rhus trilobata*), desert needle grass (*Stipa speciosa*), Parry's beargrass (*Nolina parryi*), Mojave yucca (*Yucca schidigera*), Mojave aster (*Xylorhiza tortifolia*),	Yes	Yes. Suitable habitat has not been documented for this species within the proposed action area on BLM lands, but this species does occur within the vicinity of the proposed action.	Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		Utah mortonia (*Mortonia utahensis*), and Utah agave (*Agave utahensis*). Elevation range 1,148 to 6,200 feet amsl. Flowering April to June.			
Bakersfield Cactus (*Opuntia basilaris* var. *treleasei*)	FE; SE	Range: Known from California (Kern County). Occurrences in the Plan Area are in the vicinity of Oak Creek Pass in the Tehachapi Mountains and near West Antelope State and east of Bean Canyon in the foothills of the Tehachapi Mountains. Population within the Plan Area estimated at less than 20,000 individuals and in decline. Habitat: Found on floodplains, ridges, bluffs, low rolling hills, and flats. Substrate is coarse, well-drained sandy or gravelly soils. Found in chenopod scrub, saltbrush scrub, grassland, blue oak woodland, and riparian woodland vegetation communities, with associated species include California filago (*Filago californica*), yellow pincushion (*Chaenactis glabriuscula*), and red brome (*Bromus madritensis* ssp. *rubens*), as well as other nonnative annual grasses. Elevation range 295 to 3,740 feet amsl. Flowering April to May.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Dudek and ICF International 2012
Barstow Woolly Sunflower (*Eriophyllum mohavense*)	BLM-S	Range: Endemic to California (San Bernardino and Kern Counties) in the west-central portion of the Mojave Desert. The current range is restricted to within 30 miles of Barstow, with most occurrences in the area between Kramer Junction and Harper Dry Lake. The Plan Area contains all 63 known occurrences. Total population estimated at approx. 10,600 individuals. Habitat: Found on bare areas with little soil. Substrate is sandy or rocky often containing a shallow subsurface caliche layer. Found in Chenopod scrub, Mojavean desert scrub, and Creosote bush scrub vegetation communities. Elevation range 1,640 to 3,150 feet amsl. Flowering March to April or May.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Beaver dam scurfpea, also beaver dam breadroot (*Pediomelum castoreum*)	TBD	Range: Known from California (San Bernardino County), Arizona, and Nevada (CNPS 2013) in the Mojave Desert (Jepson 2013). Present in the Project Area (pers. comm. Chavez 2013). Known occurrences within the Project Area are widely distributed between Barstow and Victorville and in one area on the north side of the San Bernardino NF (CNPS 2013). Habitat: Found in open areas and on roadcuts (Jepson 2013) and in washes. Substrate is sandy. Found in Joshua tree woodland and Mojavean desert scrub vegetation communities. Elevation range 2,001 to 5,003 feet amsl (CNPS 2013) or < 5,741 feet amsl (Jepson 2013). Flowering April to May (Calflora 2013).	No	No. No further analysis for this species for the proposed action.	Calflora 2013; Chavez 2013; CNPS 2013; Jepson 2013
Boyd's monardella (*Monardella boydii*)	TBD	Range: Endemic to California (San Bernardino County) (CNPS 2013) in the south-central Mojave Desert (Jepson 2013). Present in the Project Area (pers. comm. Chavez 2013). Known occurrences within the Project Area are clustered to the southeast of Barstow, near Ord Mountain, Camp Rock Mine, and Silver Bell Mine (CNPS 2013). Habitat: Found on rocky slopes and in canyon bottoms or washes (Jepson 2013). Substrate is usually alluvial soils and bedrock cracks. Found in Mojavean desert scrub, pinyon and juniper woodland, and desert riparian scrub vegetation communities. Elevation range 4,593 to 5,413 feet amsl (CNPS 2013). Flowering August to October (Calflora 2013).	No	No. No further analysis for this species for the proposed action.	Calflora 2013; Chavez 2013; CNPS 2013; Jepson 2013
Charlotte's Phacelia (*Phacelia nashiana*)	BLM-S	Range: Endemic to California (Tulare, Inyo, Kern, and San Diego Counties) in the desert-facing foothills of the Sierra Nevada and in the El Paso Mountains. Occurrences in the Plan Area are concentrated in northeast Kern County in the areas of Red Rock Canyon and southwest of Indian Wells. No population estimates available. Habitat: Found on unstable sites, including steep slopes, flats, canyons, washes and adjacent slopes, and on recently disturbed sites. Substrate is sandy or rocky soils of granitic origin, or talus. Found in Joshua tree woodland, Mojavean desert scrub, and pinyon-juniper woodland vegetation communities, often	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		associated with green ephedra (*Ephedra viridis*) and single-leaf pinyon (*Pinus monophylla*). Elevation range 1,600 to 7,200 feet amsl. Flowering March or April to June.			
Clokey's Cryptantha (*Cryptantha clokeyi*)	TBD	Range: Endemic to California (Inyo, Kern, Los Angeles, and San Bernardino Counties) (CNPS 2013). Found in the northwest Mojave Desert and in the north desert mountains. Habitat: Found on slopes and ridge crests. Substrate is rocky to gravelly. Found in desert woodland vegetation communities (CNPS 2013). Elevation range 3,445 to 5,413 feet amsl. Flowering April to May (Jepson 2013).	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Calflora 2013; CNPS 2013; Jepson 2013
Cushenbury Buckwheat (*Eriogonum ovalifolium var. vineum*)	FE	Range: Endemic to California (San Bernardino County) in the San Bernardino Mountains. Occurrences in the Plan Area are on BLM land adjacent to the northern border of the San Bernardino NF. Total population estimated at approx. 13,000 individuals. Habitat: Found on stable slopes and bedrock outcrop. Closely associated with carbonate (limestone and dolomite) substrates and fine-textured soils. Found in pinyon-juniper woodland, Joshua tree woodland, and Mojavean desert scrub vegetation communities with a wide range of associated species. Elevation range 4,600 and 7,900 feet amsl. Flowering May and June.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Cushenbury Milk-vetch (*Astragalus albens*)	FE	Range: Endemic to California (San Bernardino County) in the San Bernardino Mountains. Occurrences in the Plan Area are on BLM land adjacent to the northern border of the San Bernardino NF. Total population estimated at approx. 5,000 to 10,000 individuals. Habitat: Found on carbonate soils and bedrock outcrop, as well as carbonate alluvium over granite. Closely associated with carbonate (limestone and dolomite) substrates. Found in pinyon-juniper woodland, Joshua tree woodland, Mojavean desert scrub, rabbitbrush, blackbush, and Great Basin sagebrush vegetation communities with a wide range of associated species. Elevation	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		range 4,000 and 6,600 feet amsl. Flowering late March to mid June.			
Cushenbury Oxytheca (*Acanthoscyphus parishii* var. *goodmaniana*)	FE	Range: Found in California with the majority of the population in the San Bernardino NF. Occurrences in the Plan Area are on BLM land adjacent to the northern border of the San Bernardino NF. No population estimates available. Habitat: Found on limestone and other carbonate talus slopes. Substrate is limestone and dolomite derived soils with very little organic horizon. Found mostly in pinyon-juniper woodland, but also found in Joshua tree woodland, Mojavean desert scrub, Jeffrey pine-western juniper woodland vegetation communities, and with associated species including single-leaf pinyon pine (*Pinus monophylla*), Utah juniper (*Juniperus osteosperma*),. Elevation range 4,000 to 7,800 feet amsl. Flowering May to October.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Darwin Mesa Milk-vetch (*Astragalus atratus* var. *mensanus*)	BLM-S	Range: Endemic to California (Inyo County) (CNPS 2013). Found in the desert mountains to the north and west of Panamint Valley (Jepson 2013). Habitat: Found on open foothills (Jepson 2013). Substrate is volcanic clay or gravelly. Found in Great Basin scrub, sagebrush, Joshua tree woodland, and pinyon and juniper woodland vegetation communities. Elevation range 4,396 to 7,595 feet amsl. Flowering April to June (CNPS 2013).	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Calflora 2013; CNPS 2013; Jepson 2013
Death Valley Sandpaper-plant (*Petalonyx thurberi* ssp. *gilmanii*)	TBD	Range: Endemic to California (Inyo and San Bernardino Counties). Found in the north Mojave Desert (Jepson 2013). Known within the Project Area from Old Ibex Pass (CNPS 2013). Habitat: Found on dunes and in sandy washes (Jepson 2013). Substrate is sandy. Found in desert dunes and Mojavean desert scrub vegetation communities (CNPS 2013). Elevation range reported as 0 to 3,937 (Jepson 2013) and 853 to 4,741 feet amsl (CNPS 2013). Flowering May to June and September to November (Calflora 2013).	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Calflora 2013; CNPS 2013; Jepson 2013

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Dedecker's Clover (*Trifolium dedeckerae also Trifolium kingii* ssp. *dedeckerae*)	TBD	Range: Endemic to California (Inyo, Kern, Mono, and Tulare Counties) (CNPS 2013) in the southern high Sierra Nevada Mountains and to the east (Jepson 2013). Known occurrences within the Project Area include Coso Peak north of Ridgecrest and in the foothills adjacent to Sequoia NF from Ridgecrest north to Owens Lake (CNPS 2013). Habitat: Found on alpine crests and in rock crevices (Jepson 2013). Substrate is granitic and rocky. Found in lower montane coniferous forest, pinyon and juniper woodland, subalpine coniferous forest, and upper montane coniferous forest vegetation communities. Elevation range 6,890 to 11,483 feet amsl (CNPS 2013). Flowering May to July (Calflora 2013).	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Calflora 2013; CNPS 2013; Jepson 2013
Desert Cymopterus (*Cymopterus deserticola*)	BLM-S	Range: Endemic to California (San Bernardilo, Kern, and Los Angeles Counties) in the western Mojave Desert. Found from California City east to the Superior Valley and from the Cuddeback Lake area south to near Kramer Junction. Total population estimates unknown, but the population on Edwards AFB is approx. 14,093 individuals. Habitat: Found on alluvial fans and basins, stabilized sand fields, and occasionally sandy slopes of desert dry lake basins, especially on the east side of desert playas where blowsand has accumulated. Substrate is loose, sandy soils. Found in Joshua tree woodland, saltbush scrub, and Mojavean desert scrub vegetation communities. Elevation range 2,000 to 3,000 feet amsl. Flowering early March to mid May. NOTE: flowering can be irregular and the above-ground portion of the plant dies back after the flowering season.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Forked buckwheat (*Eriogonum bifurcatum*)	TBD	Range: Known from California (Inyo and San Bernardino Counties) and Nevada (CNPS 2013) in the Mojave Desert (Jepson 2013). Wide-spread distribution in plan area (pers. comm. Chavez 2013). Known occurrences within the Project Area appear to be limited (compared to "wide-spread") to the northeast corner of the Project Area in northern San Bernardino County (CNPS 2013).	No	No. No further analysis for this species for the proposed action.	Calflora 2013; Chavez 2013; CNPS 2013; Jepson 2013

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		Habitat: Found on sand. Substrate is sandy. Found in Chenopod scrub vegetation communities (CNPS 2013). Elevation range is 1,969 to 2,625 feet amsl (Jepson 2013) or 2,116 to 2,657 feet amsl (CNPS 2013). Flowering April to June (Calflora 2013).			
Hall's Daisy (*Erigeron aequifolius*)	TBD	Range: Endemic to California (Fresno, Kern, and Tulare Counties) (CNPS 2013) in the southern high Sierra Nevada Mountains (Jepson 2013). Known within the Project Area from Owens Peak west of Indian Wells (CNPS 2013). Habitat: Found on rock ledges and in crevices (Jepson 2013). Substrate is granitic and rocky. Found in broadleafed upland forest, lower montane coniferous forest, pinyon and juniper woodland, and upper montane coniferous forest vegetation communities. Elevation range 4,921 to 8,005 feet amsl (CNPS 2013). Flowering June to August (Calflora 2013).	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Calflora 2013; CNPS 2013; Jepson 2013
Kelso Creek Monkeyflower (*Mimulus shevockii*)	BLM-S	Range: Endemic to California (Kern County) in the southern Sierra Nevada Foothills and western edge of the Mojave Desert within the Kern River drainage. Total population estimated at approx. 53,400 individuals. Habitat: Found on alluvial fans, dry streamlets, or washes and granitic deposits. Substrates are usually granitic or metamorphic, and sandy or gravelly. Found in Joshua tree or California juniper xeric woodland vegetation communities, and is strongly associated with pygmy poppy (*Canbya candida)*, silver cholla (*Cylindropuntia echinocarpa)*, purple sage (*Salvia dorrii*), golden gilia (*Leptosiphon aureus)*, Tehachapi monkeyflower *(Mimulus androsaceus*), Fremont's monkeyflower (*M. fremontii*), and cheesebush or burrobrush (*Ambrosia salsola*). Elevation range 2,625 to 4,396 feet amsl. Flowering March to May.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Kern Buckwheat (*Eriogonum kennedyi* ***var.*** *pinicola*)	BLM-S	Range: Endemic to California (Kern County) and located in the Sweet Ridge area of the southeastern Sierra Nevada Foothills. Known within the Ridgecrest Recreation Area and on the Zond Windfarms property. All known occurrences are within the Project Area. Total population estimated at approx. 10,000 individuals. Habitat: Found on ridge tops in poorly draining depressions in white bentonite clay soils thought to be from volcanic ash. Substrate may have pebbles, gravel and rock cemented into the soil surface. Found in chaparral and pinyon and juniper woodland vegetation communities with associated species including California sagebrush (*Artemisia californica*), Great Basin sagebrush (*Artemisia tridentata*), adobe yampah (*Periderida pringlei*), fivetooth spineflower (*Chorizanthe watsonii*), and old fallen Jeffrey pines (*Pinus jeffreyi*). Elevation range 4,396 to 6,397 feet amsl. Flowering May to June.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Lane Mountain Milk-vetch (*Astragalus jaegerianus*)	FE	Range: Endemic to California (San Bernardino County) and located entirely within the Project Area. Four populations are known from a 13 mile radius area north of Barstow including NASA Goldstone, Brinkman Wash/Montana Mine, Paradise Valley, and Coolgardie Mesa. Total population estimated at approx. 14,120 to 141,200 individuals. Habitat: Found on Jurassic or Cretaceous granitic bedrock growing with a host species for support. Substrate is granitic, shallow soils. Found in Mojave creosote scrub and Mojave mixed woody scrub with widely scattered Joshua trees (*Yucca brevifolia*) and almost always associated with a host species, such as turpentinebroom (*Thamnosma montana*), white bursage (*Ambrosia dumosa*), Eastern Mojave buckwheat (*Eriogonum fasciculatum* ssp. *polifolium*), Cooper's goldenbush (*Ericameria cooperi*), and Nevada jointfir (*Ephedra nevadensis*). Elevation range 3,100 to 4,200 feet amsl. Flowering April and May.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Little San Bernardino Mtns. Linanthus (*Linanthus maculatus*)	BLM-S	Range: Endemic to Southern California (San Bernardino, Riverside, and Imperial Counties) in the Little San Bernardino Mountains. Known occurrences within the Project Area are near Desert Hot Springs and the north side of Joshua Tree NP. No total population estimates available, but one population at the mouth of Big Morongo Canyon was estimated at approx. 10,000 individuals. Habitat: Found in dry canyons and on sandy benches along desert washes, or on alluvial fans. Substrate is sandy, well-aerated soil on flat ground with few or no competing species. Found in desert wash systems, desert dunes, and sparse Joshua tree woodland vegetation communities and is associated with species including sigmoid threadplant (*Nemacladus sigmoideus*), blushing threadplant (*N. rubescens*), evening primrose (*Camissonia pallida*), common loeflingia (*Loeflingia squarrosa*), Arizona nest straw (*Filago arizonica*), and Wallace's woolly sunflower (*Eriophyllum wallacei*). Elevation range 305 to 4,002 feet amsl. Flowering March to May.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Mojave menodora (*Menodora spinescens* var. *mohavensis*)	TBD	Range: Endemic to California (Inyo and San Bernardino Counties) (CNPS 2013) on the north slope of the San Bernardino Mountains (Jepson 2013). Wide-spread distribution in Project Area (pers. comm. Chavez 2013). Known occurrences within the Project Area occur in the general vicinity of Barstow and on the north side of Joshua Tree NP into the Yucca Valley (CNPS 2013). Habitat: Found on rocky desert hillsides and in canyons (Jepson 2013). Substrate is andesite gravel. Found in Mojavean desert scrub vegetation communities. Elevation range 2,264 to 6,562 feet amsl (CNPS 2013). Flowering April to May (Calflora 2013).	No	No. No further analysis for this species for the proposed action.	Calflora 2013; Chavez 2013; CNPS 2013; Jepson 2013
Mojave Monkeyflower (*Mimulus mohavensis*)	BLM-S	Range: Endemic to California (San Bernardino County) in the Mojave Desert. Known occurrences within the Project Area are restricted to areas south of Daggett and Barstow. No population estimates available. Habitat: Found in areas not subjected to water flow, including the gravelly	Yes	Yes. Suitable habitat has been documented for this species within the proposed action	BLM 2005; Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		banks of desert washes with granitic soils and rocky slopes above washes, as well as the sandy openings. Substrate is sandy, granitic soils. Found in Joshua tree woodland and Mojavean desert scrub, specifically creosote bush scrub vegetation communities, and is associated with species including creosote bush (*Larrea tridentata*), desert senna (*Senna armata*), cheese bush (*Ambrosia salsola*), ratany (*Krameria erecta* and *K. grayi*), chollas (*Cylindropuntia* spp.), burro bush (*Ambrosia dumosa*), prairie-clovers (*Dalea* spp.), catclaw (*Senegalia greggii*), Bigelow's monkeyflower (*Mimulus bigelovii*), desert bells (*Phacelia campanularia*), desert fivespot (*Eremalche rotundifolia*), spiny hopsage (*Grayia spinosa*), and desert trumpet (*Eriogonum inflatum* var. *inflatum*). Elevation range 1,968–3,937 feet amsl. Flowering period unknown; it appears to be dependent on rainfall.		area on BLM lands.	
Mojave Tarplant (*Deinandra mohavensis*)	SE; BLM-S	Range: Known from California (Kern, Riverside, and San Diego Counties) on the desert slopes of the southern Sierra Nevada Mountains. Known occurrences within the Project Area include eight sites located west of Highway 14 and east of the Sequoia National Forest. No population estimates available. Habitat: Found near springs, seeps, wetland margins, swales and stream channels. Substrate is clay or silty soils that are saturated with water early in the year. Found near the margins of the desert, within chaparral, coastal scrub, and riparian scrub vegetation communities. Elevation range 2,100–5,250 feet amsl. Flowering June to January.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Nine Mile Canyon Phacelia (*Phacelia novenmillensis*)	TBD	Range: Endemic to California (Inyo, Kern, and Tulare Counties) (CNPS 2013) on the east slope of the southern high Sierra Nevada Mountains and on the west edge of the Mojave Desert (Jepson 2013). Known occurrences within the Project Area are concentrated in the Sierra Nevada foothills west of Indian Wells including Owens Peak, Ninemile Canyon, Lamont Peak, and Walker Pass. Habitat: Found in open foothills. Substrate is sandy to gravelly soil (Jepson 2013). Found in broadleafed upland forest, Cismontane woodland, pinyon and	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Calflora 2013; CNPS 2013; Jepson 2013

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		juniper woodland, and upper montane coniferous forest vegetation communities. Elevation range is 5,397 to 8,661 feet amsl (CNPS 2013). Flowering May to June (Calflora 2013) or February to June (CNPS 2013).			
Owens Peak Lomatium, also Owens Peak desertparsley (*Lomatium shevockii*)	TBD	Range: Endemic to California (Kern County) (CNPS 2013) in the southern high Sierra Nevada Mountains (Jepson 2013). Known within the Project Area from Owens Peak and Mt. Jenkins west of Indian Wells (CNPS 2013). Habitat: Found on rocky slopes and talus (Jepson 2013). Substrate is rocky. Found in lower montane coniferous forest and upper montane coniferous forest vegetation communities. Elevation range 5,807 to 7,218 feet amsl (CNPS 2013) or 7,218 to 8,202 feet amsl (Jepson 2013). Flowering April to May (Calflora 2013).	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Calflora 2013; CNPS 2013; Jepson 2013
Parish's Alkali Grass (*Puccinellia parishii*)	BLM-S	Range: Known from California (San Bernardino County), Arizona, and New Mexico. Known occurrence in the project area is limited to one disjunct population at Rabbit Springs, near Lucerne Valley. Population at the known occurrence is estimated at approx. 150 individuals. Habitat: Found in alkali seeps and springs. Substrate is wet, alkaline clay soils without dense vegetation. Strongly alkaline and/or saline surface water must be present for at least part of the year. Elevation range 2,296 to 7,216 feet amsl. Flowering April to May.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Parish's Daisy (*Erigeron parishii*)	FT	Range: Endemic to California on the slopes of the San Bernardino Mountains and the Little San Bernardino Mountains. Known occurrences within the Project Area are concentrated in areas adjacent to the northeast edge of the San Bernardino NF and both in and adjacent to the northwest corner of Joshua Tree NP. Total population estimated at approx. 16,000 individuals. Habitat: Found along washes on canyon bottoms or on loose carbonate alluvium. Substrate is often carbonate soils, but it can also grow on granitic	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		soils. Found in Mojavean desert scrub and pinyon and juniper woodland vegetation communities and can co-occur with Cushenbury oxytheca (*Acanthoscyphus parishii var. goodmaniana*). Elevation range 3,000 to 6,600 feet amsl. Flowering May to August.			
Parish's Phacelia (*Phacelia parishii*)	None	Range: Known from California (San Bernardino and Inyo Counties), Nevada, and Arizona. Known occurrences within the Project Area are concentrated in the vicinity of Barstow, south of Fort Irwin, and around Lucerne Dry and Coyote Dry Lakes. Total population estimates are far ranging, with a single occurrence once estimated at 200 million plants in a good year, but completely absent in a dry year. Habitat: Found along dry lake margins and on playas and valley floors. Substrate is clay and alkaline soils. Found in Playas, alkali sinks, and Mojavean desert scrub vegetation communities, usually in sparsely vegetated areas. Elevation range 1,772 to 3,937 feet amsl. Flowering April to July.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Piute Mountains Jewel-flower (*Streptanthus cordatus* var. *piutensis*)	BLM-S	Range: Endemic to California (Kern County) in the southern Sierra Nevada. Known occurrences within the project area are concentrated near Sweet Ridge, south of Cache Peak near the City of Mojave. Total population estimates are unavailable, but an estimate of the largest known occurrence is approx. 75 individuals. Habitat: Found on metamorphic rocks and sandy slopes, though the limited distribution makes it difficult to generalize these observations. Substrates range from metamorphic rock, reddish clay-like soils, heavy clay, stony gabbro substrate, and very dark brown-red soil and rock. Found in broadleaf upland forests, closed-cone coniferous forest, and pinyon-juniper woodland vegetation communities and is associated with species including associated with Bodfish Piute cypress (*Cupressus nevadensis*) and California juniper (*Juniperus californica*). Elevation range 3,592 to 7,000 feet amsl. Flowering June to July.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Red Rock Poppy (*Eschscholzia minutiflora* ssp. *Twisselmannii*)	BLM-S	Range: Endemic to California (Kern and San Bernardino Counties) in the western Mojave Desert in the Rand and El Paso mountains. Known occurrences within the Project Area are concentrated in Red Rock Canyon State Park with one other occurrence on Edwards AFB. Total population estimated at approx. 41,000 individuals. Habitat: Found on desert washes, flats, bajadas, alluvial fans, and slopes. Substrate includes sedimentary mounds, limestone, metamorphic rocks, and rocky basalt, but has also been reported as being restricted to rhyolite tuffs and granitic soils. Found in Mojavean desert scrub vegetation communities. Elevation range 2,176 to 4,040 feet amsl. Flowering March to May.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Red Rock Tarplant (*Deinandra arida*)	SR; BLM-S	Range: Endemic to California (Kern County) in the el Paso Mountains. Known occurrences within the Project Area are in Red Rock and Last Chance Canyons in Red Rock Canyon State Park and on adjacent BLM land. Total population estimated at approx. 3,400 individuals, but high annual variability exists. Habitat: Found in sandy to gravelly washes, moist alkaline margins of seeps and springs, sandy alluvium at the foot of ridges and cliffs, and ledges of dry colluvium supported by ribs of bedrock on cliffs. Substrate is clay soils and volcanic tuff. Found in Mojavean desert scrub communities and is associated with seep-spring monkeyflower (*Mimulus guttatus*) and Palmer's monkeyflower (*Mimulus palmeri*) at moist sites. Elevation range 900 to 2,850 feet amsl. Flowering April to November.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Robison's Monardella (*Monardella robisonii*)	TBD	Range: Endemic to California (Riverside and San Bernardino Counties) (CNPS 2013) in the Little San Bernardino Mountains (Jepson 2013). Known occurrences within the Project Area are in the general area north of Desert Hot Springs and Yucca Valley, parts of Joshua Tree NP, and adjacent lands to the north (CNPS 2013). Habitat: Found among granite boulders. Found in desert scrub (Jepson 2013)	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Calflora 2013; CNPS 2013; Jepson 2013

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		and pinyon and juniper woodland vegetation communities. Elevation range 2,001 to 4,921 feet amsl (CNPS 2013). Flowering April to September (Calflora 2013) or February to October (CNPS 2013).			
Sanicle Cymopterus (*Cymopterus ripleyi* var. *saniculoides*)	TBD	Range: Known from California (Inyo County) and Nevada in the southern high Sierra Nevada Mountains, southeast of the Sierra Nevada Mountains, and in the north desert mountains (Jepson 2013). Known occurrences within the Project Area are located to the south and east of Owens Lake (CNPS 2013). Habitat: Substrate is gravelly, sandy, or carbonate soils. Found in Joshua tree woodland and Mojavean desert scrub vegetation communities. Elevation range 3,609 to 5,446 feet amsl (CNPS 2013). Flowering April to June (Calflora 2013).	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Calflora 2013; CNPS 2013; Jepson 2013
Short-joint Beavertail (*Opuntia basilaris* var. *brachyclada*)	TBD	Range: Known from California (Los Angeles and San Bernardino Counties) (Calflora 2013) from the Anaverde Valley west of Palmdale east to the Cajon Pass. Also found within the Angeles National Forest south of the West Mojave boundary. Habitat: Found in open streambeds and on rocky slopes. Substrate is variable, ranging from sandy to rocky. Found in Joshua tree, pinyon pine, and juniper woodlands, although it also occurs in chaparral and Mojave desert scrub vegetation communities. Elevation range 3,000 to 6,500 feet amsl. Flowering April to June (Calflora 2013).	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Calflora 2013

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
Spanish Needle Onion (*Allium shevockii*)	BLM-S	Range: Known from California (Kern County). Known occurrences within the Project Area include Spanish Needle Peak and the Horse Canyon/Jawbone Canyon area in the Tehachapi Mountains. No population estimates available. Habitat: Found at the edge of rock outcrops and talus derived from volcanic and metamorphic rock. Substrate is rocky soil. Found in sparsely vegetated areas. Elevation range 1,050 to 5,400 feet amsl. Flowering May to June or June to July (not well documented).	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	Dudek and ICF International 2012
Stephen's Beardtongue (*Penstemon stephensii*)	TBD	Range: Endemic to California (Inyo and San Bernardino Counties) (CNPS 2013) in the desert mountains (Jepson 2013). Populations near Yucca Valley (pers. comm. Chavez 2013). Known occurrences within the Project Area are undocumented (CNPS 2013) except for the personal communication. Habitat: Found on rocky slopes and in washes and rock crevices (Jepson 2013). Substrate is usually carbonate and rocky. Found in Mojavean desert scrub and pinyon and juniper woodland vegetation communities. Elevation range 3,806 to 6,070 feet amsl (CNPS 2013) or 3,281 or 7,218 feet amsl (Jepson 2013). Flowering April to June (Calflora 2013).	No	No. No further analysis for this species for the proposed action.	Calflora 2013; Chavez 2013; CNPS 2013; Jepson 2013
White-margined Beardtongue (*Penstemon albomarginatus*)	BLM-S	Range: Known from California (San Bernardino County), Nevada, and Arizona. Known occurrences within the Project Area are in the vicinity of Pisgah Crater. No total population estimates available. Habitat: Found on desert dunes and in washes and along roadsides. Substrate is deep, stabilized desert sands and fine alluvial sands. Found in Mojave Desert scrub and desert dune vegetation communities and is associated with species including big galleta (*Hilaria* [*Pleuraphis*] *rigida*), winter fat (*Krascheninnikovia lanata*), and Shockley's goldenhead (*Acamptopappus shockleyi*). Elevation range 1,398 to 3,494 feet amsl. Flowering March to April.	Yes	Yes. Suitable habitat has been documented for this species within the proposed action area on BLM lands.	BLM 2005; Dudek and ICF International 2012
Crucifixion Thorn (*Castela emoryi*)	TBD	Range: Known from California (Imperial, Inyo, Riverside, and San Bernardino Counties), Arizona, and Sonora, Mexico (CNPS 2013). This species is disjunct from its primary range and is found in the sand fields and washes north and east	Yes	Yes	BLM 2005; Calflora 2013; CNPS 2013

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		of Pisgah Crater and southeast of Fort Irwin (BLM 2005). Appears to be broadly distributed throughout the eastern portion of the Plan Area in low-lying desert between mountains (CNPS 2013). Habitat: Found on outwash plain, in small washes and other sites where water accumulates, as well as non-saline dry lakes. Substrate is gravelly soil (CNPS 2013). Found in Mojavean desert scrub, playas, Sonoran desert scrub, and its own distinct crucifixion thorn woodland vegetation community. Elevation range 295 to 2,198 feet amsl (CNPS 2013). Flowering June to July (Calflora 2013) or April to September (CNPS 2013).			
Parish's Popcorn Flower (*Plagiobothrys parishii*)	TBD	Range: Endemic to California (Inyo, Los Angeles, Mono, and San Bernardino Counties) (CNPS 2013) and found east of the Sierra Nevada Mountains and in the central Mojave Desert (Jepson 2013). Wide-spread distribution in Project Area (pers. comm. Chavez 2013). A single site at Rabbit Springs in Lucerne Valley supports this species. The only other recent records of this plant in California are from freshwater springs at the edge of Owens Lake in Inyo County (BLM 2005). Habitat: This species is a wetland obligate. It is supported in the Project Area due to the reliability of the groundwater at the known alkali seep. Substrate is alkaline, mesic soils. Found in Great Basin scrub and Joshua tree woodland vegetation communities (CNPS 2013). Elevation range 2,461 to 4,593 (CNPS 2013) or 7,251 feet amsl (Jepson 2013). Flowering May to June (Calflora 2013) or March to November (CNPS 2013).	Yes	Yes	BLM 2005; Calflora 2013; Chavez 2013; CNPS 2013; Jepson 2013
Salt Springs Checkerbloom (*Sidalcea neomexicana*)	TBD	Range: Known from California (Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties), Arizona, Colorado, Idaho, New Mexico, Nevada, Oregon, Sonora (Mexico), Texas, Utah, and Wyoming (CNPS 2013). Only population in Project Area on private land (pers. comm. Chavez 2013). Although formerly widespread outside the desert, virtually no records are available since 1966. A single site at Rabbit Springs in Lucerne Valley supports this species, which emerges and flowers every year because of	No	No. No further analysis for this species for the proposed action.	BLM 2005; Chavez 2013; CNPS 2013

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		the reliability of the groundwater at this alkali seep (BLM 2005). Habitat: Found in alkaline springs and marches (Jepson 2013). Substrate is alkaline mesic soils (CNPS 2013). Found in chaparral, coastal sage scrub and yellow pine forest. In the desert, it appears to be restricted to alkali seeps and springs. Elevation range 49 to 5,020 feet amsl (CNPS 2013). Flowering April to June then dying back to ground level in the late summer, fall and winter.			
Shockley's Rock Cress (*Boechera shockleyi*)	TBD	Range: Known from California (Inyo, Mono, and San Bernardino Counties), Nevada, and Utah, primarily in the San Bernardino National Forest on the north slope of the San Bernardino Mountains. Nine occurrences have been reported by the NDDB within the planning area, 3 on public lands and 6 on private lands. The latter have been surveyed more intensively. In 1998, this plant was found within 51 plots randomly placed across the proposed carbonate plants conservation area, mainly within the San Bernardino National Forest. One isolated historical record is from Highway 247 north of its junction with Highway 18 in Lucerne Valley. Habitat: Found on limestone and quartzite outcrops. Substrates are gravelly (BLM 2005). Found in pinyon and juniper woodland vegetation communities (CNPS 2013). Elevation range 3,000 - 6,000 feet amsl (BLM 2005). Flowering April to May (Jepson 2013) or May to June (CNPS 2013).	No	No. No further analysis for this species for the proposed action.	BLM 2005; CNPS 2013; Jepson 2013
Triple-ribbed Milkvetch (*Astragalus tricarinatus*)	FE	Range: Known from California (Riverside and San Bernardino Counties), mainly in the eastern San Bernardino Mountains/Whitewater Canyon area, Morongo Canyon, and the western part of the Little San Bernardino Mountains, with disjunctive occurrences in the Orocopia and Santa Rosa mountain ranges. On edge of Project Area, no designated routes in habitat (pers. comm. Chavez 2013). Known occurrences within the Plan Area are in Big Morongo Canyon and adjacent canyons. Rangewide population estimated at approx. 500 individuals, but surveys have not been extensive. Habitat: Found commonly on rocky slopes and ridges that are mostly barren.	No	No. No further analysis for this species for the proposed action.	BLM 2005; Chavez 2013; Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		Substrate is coarse and granitic. Found in Joshua tree woodland and Sonoran desert scrub vegetation communities with associated species including associated plants including giant needlegrass (*Achnatherum coronatum*), California buckwheat (*Eriogonum fasciculatum*), ceanothus (*Ceanothus greggii*), bush poppy (*Dendromecon rigida*), bigberry manzanita (*Arctostaphylos glauca*), bitter snakewood (*Condalia globosa*), yerba santa (*Eriodictyon trichocalyx*), and Spanish bayonet (*Yucca schidigera*). Elevation range 2,300 to 4,000 feet amsl. Flowering February to May.			
San Bernardino Mountains dudleya (*Dudleya abramsii* ssp. *Affinis*)	None	Range: Endemic to California (San Bernardino County) and known from a small area of the San Bernardino Mountains. Only population on BLM land in the Bighorn Mountain Wilderness (pers. comm. Chavez 2013). Known occurrences within the project area are limited to Cushenbury Springs and the northeast slope of White Mountain. No good population estimates are available. Habitat: Found on pebble plain or pavement. Substrate is granitic or quartzite and rarely limestone. Found in pinyon and juniper woodland and upper montane coniferous forest vegetation communities with associated species including junipers (*Juniperus* spp.), pines (*Pinus* spp.), mountain-mahogany (*Cercocarpus* spp.), hedgehog cactus (*Echinocereus* spp.), Cushenbury milkvetch (*Astragalus albens*), Parish's daisy (*Erigeron parishii*), Cushenbury buckwheat (*Eriogonum ovalifolium* ssp. *vineum*), and Cushenbury oxytheca (*Acanthoscyphus parishii* var. *goodmaniana*). Elevation range 4,101 to 8,530 feet amsl. Flowering April to June.	No	No. No further analysis for this species for the proposed action.	Chavez 2013; Dudek and ICF International 2012
Tracy's eriastrum (*Eriastrum tracyi*)	SR; BLM-S	Range: Known from California (Colusa, Fresno, Glenn, Kern, Santa Clara, Shasta, Stanislaus, Tehama, Trinity, and Tulare Counties) in the foothills on the east and west sides of the Central Valley. Known occurrences within the Project Area are clustered on the desert slope of the southern Sierra Nevada Mountains in Kern County. No population estimates available. Habitat: Found in openings, sometimes recently disturbed. Substrate unspecified. Found in chaparral and cismontane woodland vegetation	No	No. No further analysis for this species for the proposed action.	Dudek and ICF International 2012

Table C.1. Special Status Species

Species	Status[1]	Range/Habitat within the WEMO Planning Area	Potential For Occurrence within the Vicinity of the Proposed Action	Potentially affected by TMA Route Designations	Sources
		communities commonly in association with cheatgrass (*Bromus tectorum*) and red brome (*B. madritensis*). Elevation range 950 to 3,400 feet amsl. Flowering June to July.			

[1]FE: Federally Endangered; FT: Federally Threatened; BLM-S: BLM Sensitive Species; SSC: State Species of Concern; SFP: State Fully Protected; ST: State Threatened; SE: State Endangered; None – currently not under any special status designation, but selected by BLM biologists as needed to be analyzed as such.

APPENDIX D

MDAQMD REPORT
APRIL 2013

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West Mojave Plan Air Quality Evaluation Report

This report was prepared by the Mojave Desert Air Quality Management District Planning, Rulemaking and Grants staff on behalf of the West Mojave Planning Area air districts in April, 2013. Contact Alan De Salvio, Supervising Air Quality Engineer at 760-245-1661 x6726 or adesalvio@mdaqmd.ca.gov.

Introduction

The West Mojave (WEMO) Planning Area includes all or portions of five air quality districts (Mojave Desert Air Quality Management District (MDAQMD), Antelope Valley Air Quality Management District (AVAQMD), East Kern Air Pollution Control District (EKAPCD), the Great Basin Unified Air Pollution Control District (GBUAPCD), and the South Coast Air Quality Management District (SCAQMD)).

Air districts have statutory responsibility, in conjunction with the California Air Resources Board (CARB), to monitor air quality data (California Health and Safety Code §39607), with the intent of monitoring the public health, safety and welfare, including, but not limited to, health, illness, irritation to the senses, aesthetic value, interference with visibility, and effects on the economy (H&SC §39606(a)(2)). The WEMO Planning Area air districts (and CARB) operate an extensive ambient air monitoring network to meet this statutory requirement.

This report will summarize the nature of emissions within the WEMO Planning Area, how those emissions are monitored, summarize existing monitoring data, and discuss the existing monitoring network's ability to monitor off-highway vehicles and Open Areas.

WEMO Planning Area Emissions

The WEMO Planning Area includes the full gamut of emissions generated by mankind's activity, with the notable exception of emissions from waterborne activity, as the WEMO Planning Area has no coastal and sparse river and lakefront area. Emissions within the WEMO Planning Area are currently tabulated by CARB and air districts for State and Federal air quality planning purposes. Existing emission inventory efforts meet all State and Federal statutory and guidance inventory requirements. Specific emission inventory elements are presented below:

Substance	Nature	Basis for Inventory
Volatile Organic Compounds (VOC)	Ozone and fine particulate precursor	No direct ambient standard, indirect ozone standard, regional pollutant
Oxides of Nitrogen (NOx)	Ozone and fine particulate precursor, includes air pollutant Nitrogen Dioxide (NO2)	Ambient standard, indirect ozone standard, regional pollutant
Carbon Monoxide (CO)	Air pollutant	Ambient standard, local and regional pollutant
Respirable Particulate	Air pollutant, includes	Ambient standard, local and

Substance	Nature	Basis for Inventory
Matter (PM10)	PM2.5, interferes with visibility	regional pollutant
Fine Respirable Particulate Matter (PM2.5)	Air pollutant, interferes with visibility	Ambient standard, regional pollutant
Oxides of Sulfur (SOx)	Air pollutant, fine particulate precursor, includes air pollutant Sulfur Dioxide (SO2)	Ambient standard, local and regional pollutant
Hazardous and Toxic Compounds (HAPs and TACs)	Unhealthy	No ambient standard, localized health effects, facility inventory only

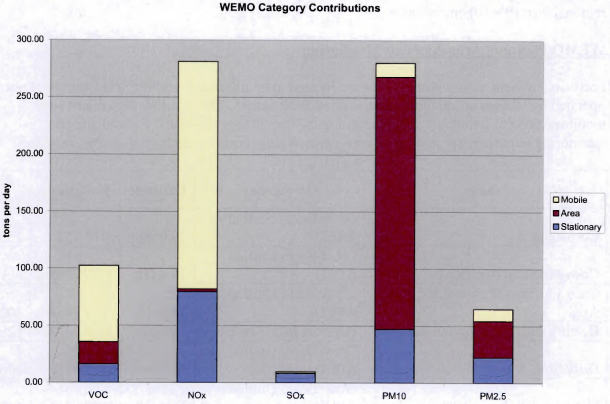
Existing emission inventory efforts cover all sources within the WEMO Planning Area. Emissions are typically grouped into three categories. For complete inventory details please refer to Appendix A of this report.

Inventory Category	Contributors in WEMO Planning Area
Stationary Sources	Industrial activity (mining, manufacturing, electricity generation, natural gas transmission) and military bases
Mobile Sources	On-road vehicles, off-road vehicles, aircraft and trains
Area Sources	Solvent use (fuel, paint, chemical), small combustion (fires, heating, cooking), small widespread sources (consumer products)

The WEMO Planning Area emissions inventory is presented below, in tons of emissions per day:

Type	*Category*	*VOC*	*NOx*	*SOx*	*PM10*	*PM2.5*
Stationary	Fuel Combustion	0.00	24.02	2.31	5.20	4.02
Stationary	Waste Disposal	0.27	0.07	0.12	0.30	0.07
Stationary	Cleaning and Surface Coatings	6.62	0.00	0.00	0.40	0.38
Stationary	Petroleum Production and Marketing	5.99	0.02	0.00	0.00	0.00
Stationary	Industrial Processes	2.42	55.69	5.83	41.15	17.83
Area	Solvent Evaporation	13.67	0.00	0.00	0.00	0.00
Area	Miscellaneous Processes	5.78	2.43	0.13	221.03	31.84
Mobile	On-Road Motor Vehicles	28.45	135.88	0.22	6.27	5.16
Mobile	Other Mobile Sources	38.31	62.99	0.99	6.00	5.59
	Totals:	**102.41**	**281.10**	**9.60**	**280.35**	**64.89**

The relative contributions of sources within the WEMO Planning Area are presented below. Note that mobile sources dominate ozone precursor emissions, SOx emissions are relatively minor, and area sources dominate particulate emissions.



Off-Highway Vehicle Exhaust Contribution

Off-Highway Vehicles (OHVs) are directly inventoried as mobile sources, as the subcategory off-highway recreational vehicles. OHV exhaust is a negligible contributor to the WEMO Planning Area inventory except for VOC emissions. OHV VOC emissions are relatively high (in relation to other OHV exhaust emissions) because OHV engines are typically carbureted, rich burn engines without catalytic controls and hence have greater unburned fuel in their exhaust. Nevertheless VOC emissions are not a local pollutant but are a precursor to ozone formation – ozone is a regional pollutant. OHV exhaust is a negligible contributor to local emissions, and is a significant contributor only to VOC (a regional pollutant precursor).

OHV Open Area Contribution

OHV Open Areas are indirectly inventoried as area sources, as an element of the unpaved road dust and the fugitive windblown dust subcategories. OHV Open Areas are not significant contributors to either subcategory due to scale – the WEMO Planning Area includes thousands of miles of maintained and unmaintained unpaved roads and tracks, and tens of millions of acres of disturbed surface, and the contribution of the relatively small OHV Open Areas is equally relatively small. Regional experience with windblown dust has shown that heavily traveled unpaved roads and similar frequently disturbed (on at least a daily basis) surfaces are the primary contributor to regional dust problems. Confining OHV activity to existing defined OHV Open Areas has been an element of regional dust control planning for more than twenty years, and is

an element of Federal PM10 planning. OHV Open Areas are not a significant contributor to regional dust (PM10) emissions.

WEMO Planning Area Ambient Monitoring

Forty-six ambient air monitoring sites are located in or adjacent to the WEMO Planning Area, operated by various air quality agencies or on their behalf. This existing network of sites monitors ambient pollutants and meteorological data to meet State and Federal ambient monitoring requirements, and represents a mix of neighborhood and regional scale monitors:

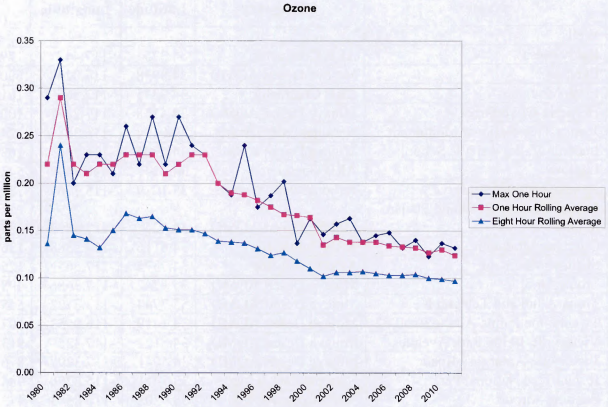
Name	OP Agency	Latitude	Longitude	Elev (m)
Coso Gate	Great Basin Unified APCD	36.0688	-117.755	1329
Coso Junction-10 miles E	Great Basin Unified APCD	36.0338	-117.7988	NA
Coso Junction-Highway 395 Rest Area	Great Basin Unified APCD	36.0497	-117.9438	1027
Death Valley Natl Monument	National Park Service	36.5089	-116.8478	125
Dirty Sox	Great Basin Unified APCD	36.3261	-117.955	1060
Flat Rock-Highway 190	Great Basin Unified APCD	36.4219	-117.8366	1133
Keeler-Cerro Gordo Road	Great Basin Unified APCD	36.4877	-117.8711	1097
Olancha-E Fall Road	Great Basin Unified APCD	36.2755	-117.9897	1097
Olancha-Walker Creek Road	Great Basin Unified APCD	36.2663	-117.9916	1100
Boron-26965 Cote Street	ARB Contractor	35.0036	-117.6511	750
Canebrake	California ARB	35.72778	-118.139312	914
China Lake-Powerline Road	Kern County APCD	35.7102	-117.6397	697
Inyokern-Airport	Great Basin Unified APCD	35.6513	-117.8241	759
Mojave-923 Poole Street	CARB/Kern County APCD	35.0503	-118.1478	853
Ridgecrest-100 West California Avenue	Kern County APCD	35.6211	-117.6731	701
Ridgecrest-Las Flores Avenue	Kern County APCD	35.6299	-117.6692	723
Tehachapi-Jameson Road	California ARB	35.1333	-118.425	1167
Lancaster-43301 Division Street	Antelope Valley APCD	34.6713	-118.1305	725
Lancaster-W Pondera Street	Mojave Desert AQMD	34.6899	-118.1327	725
Palmdale	ARB Contractor	34.5569	-118.1116	841
Blythe-445 West Murphy Street	Mojave Desert AQMD	33.6119	-114.6	83
Joshua Tree National Park-Pinto	National Park Service	33.9397	-115.4108	326

Name	OP Agency	Latitude	Longitude	Elev (m)
Wells				
Baldy Mesa	ARB Contractor	34.375	-117.4477	1295
Barstow	Mojave Desert AQMD	34.8938	-117.0244	690
Flash Mountain	ARB Contractor	34.7375	-117.565	1013
Hesperia-Olive Street	Mojave Desert AQMD	34.4158	-117.2861	1006
Joshua Tree-National Monument	National Park Service	34.0694	-116.3888	1244
Lucerne Valley-Middle School	Mojave Desert AQMD	34.4103	-116.9067	1036
Ludlow	ARB Contractor	34.7247	-116.1577	543
Mojave National Preserve	National Park Service	35.1019	-115.7767	1212
Phelan-Beekley Road and Phelan Road	Mojave Desert AQMD	34.425	-117.5897	1250
Quartzite Mountain	ARB Contractor	34.6116	-117.2888	1366
Shadow Mountain	ARB Contractor	34.7375	-117.565	1256
Trona-Athol	Mojave Desert AQMD	35.7742	-117.3686	498
Trona-Athol and Telegraph	Mojave Desert AQMD	35.7744	-117.3722	545
Twentynine Palms-Adobe Road #2	Mojave Desert AQMD	34.1419	-116.0553	607
Victorville-14306 Park Avenue	Mojave Desert AQMD	34.5122	-117.325	913
Victorville-Amargosa Road	Mojave Desert AQMD	34.5041	-117.3297	876
Joshua Tree National Park	National Park Service	33.7411	-115.8206	984
Banning Airport	South Coast AQMD	33.9208	-116.8583	473
Banning-Allesandro	South Coast AQMD	33.9211	-116.8583	722
Riverside-Rubidoux	South Coast AQMD	34.0005	-117.4152	250
Big Bear City-501 W. Valley Blvd	South Coast AQMD	34.2644	-116.8644	2056
Crestline	South Coast AQMD	34.2413	-117.2755	1384
Mount Baldy-Mount Baldy Road	California ARB	34.2391	-117.6208	1335
San Gorgonio Wilderness	National Park Service	34.19390	-116.9132	1726

Neighborhood scale monitors are located near population centers, and regional scale monitors are located in rural areas. Neighborhood scale monitors are used to characterize and monitor ambient air affecting nearby population, while tracking attainment of ambient air pollutant standards (or tracking progress towards attainment of those standards). Regional scale monitors are used to evaluate large geographic regions, and track overall background levels of ambient air pollutants.

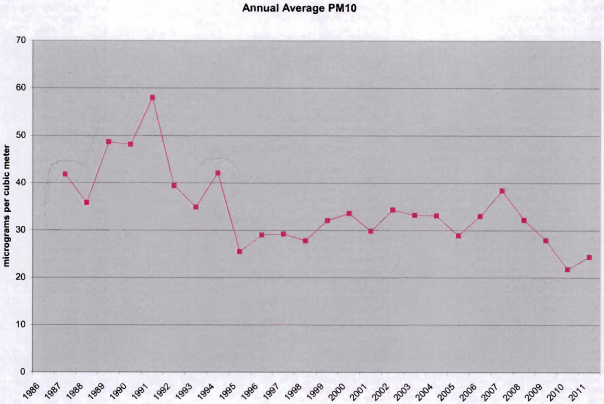
WEMO Planning Area Ambient Ozone Data

Ambient ozone values in the WEMO Planning Area are trending down as a result of Federal, State and local ozone precursor emission controls. These trends represent significant improvement in population exposure to ozone (at neighborhood scale monitors) and regional improvement in ozone levels (at regional scale monitors), despite significant increases in WEMO Planning Area population and associated emissions. Ambient ozone data for the WEMO Planning Area monitors is presented below.



WEMO Planning Area Ambient PM_{10} Data

Ambient PM10 values in the WEMO Planning Area have been reduced as a direct result of Federal PM10 planning efforts, particularly in Owens Lake and Searles Valley areas. Construction and demolition PM10 emissions have been reduced throughout the planning area through increased local regulation. The WEMO Planning Area population (and population-related emissions and surface disturbances) has increased over this time period. The WEMO Planning Area is predominately a windy, arid, low vegetation area, with relatively high dust levels due to exposed soils and high winds lifting those soils into the area. As a result the background levels of PM10 tend to be elevated, with common "exceptional" high wind dust events. The annual average ambient PM10 data for the WEMO Planning Area is presented below.



Ambient Monitoring Coverage of OHVs and OHV Open Areas

As discussed above, OHVs and OHV Open Areas are minor contributors to regional pollution, but are monitored by regional scale monitors by definition. The contribution of OHV use and OHV Open Area emissions near population centers are also monitored by the neighborhood scale monitors covering those population centers. The existing ambient air monitoring network in the WEMO Planning Area meets all Federal, State and local ambient air monitoring requirements, including monitoring ambient impacts from OHVs and OHV Open Areas.

Appendix A – WEMO Planning Area Emissions Inventory (Detail)

Type	Category	Subcategory	VOC	NOx	SOx	PM10	PM2.5
Stat	FUEL COMBUSTION	ELECTRIC UTILITIES	0.05	2.09	0.73	0.15	0.11
Stat	FUEL COMBUSTION	COGENERATION	0.03	4.20	0.46	0.17	0.15
Stat	FUEL COMBUSTION	MANUFACTURING AND INDUSTRIAL	0.19	4.36	0.68	0.42	0.44
Stat	FUEL COMBUSTION	FOOD AND AGRICULTURAL PROCESSING	0.06	0.62	0.03	0.03	0.02
Stat	FUEL COMBUSTION	SERVICE AND COMMERCIAL	0.32	9.26	0.13	0.37	0.37
Stat	FUEL COMBUSTION	OTHER (FUEL COMBUSTION)	0.25	3.49	0.28	4.06	2.93
Stat	WASTE DISPOSAL	SEWAGE TREATMENT	0.01	0.00	0.00	0.00	0.00
Stat	WASTE DISPOSAL	LANDFILLS	0.20	0.01	0.06	0.26	0.04
Stat	WASTE DISPOSAL	INCINERATORS	0.01	0.06	0.06	0.01	0.01
Stat	WASTE DISPOSAL	SOIL REMEDIATION	0.00	0.00	0.00	0.00	0.00
Stat	WASTE DISPOSAL	OTHER (WASTE DISPOSAL)	0.05	0.00	0.00	0.03	0.02
Stat	CLEANING AND SURFACE COATINGS	LAUNDERING	0.00	0.00	0.00	0.00	0.00
Stat	CLEANING AND SURFACE COATINGS	DEGREASING	4.13	0.00	0.00	0.00	0.00
Stat	CLEANING AND SURFACE COATINGS	COATINGS AND RELATED PROCESS SOLVENTS	2.26	0.00	0.00	0.21	0.20
Stat	CLEANING AND SURFACE COATINGS	PRINTING	0.05	0.00	0.00	0.19	0.18
Stat	CLEANING AND SURFACE COATINGS	ADHESIVES AND SEALANTS	0.16	0.00	0.00	0.00	0.00
Stat	CLEANING AND SURFACE COATINGS	OTHER (CLEANING AND SURFACE COATINGS)	0.02	0.00	0.00	0.00	0.00
Stat	PETROLEUM PRODUCTION AND MARKETING	OIL AND GAS PRODUCTION	0.08	0.00	0.00	0.00	0.00
Stat	PETROLEUM PRODUCTION AND MARKETING	PETROLEUM REFINING	0.01	0.00	0.00	0.00	0.00
Stat	PETROLEUM PRODUCTION AND MARKETING	PETROLEUM MARKETING	5.89	0.02	0.00	0.00	0.00
Stat	PETROLEUM PRODUCTION AND MARKETING	OTHER (PETROLEUM PRODUCTION AND MARKETING)	0.01	0.00	0.00	0.00	0.00
Stat	INDUSTRIAL PROCESSES	CHEMICAL	0.53	0.98	0.11	0.34	0.26
Stat	INDUSTRIAL PROCESSES	FOOD AND AGRICULTURE	0.03	0.00	0.00	0.02	0.01
Stat	INDUSTRIAL PROCESSES	MINERAL PROCESSES	1.37	49.04	5.51	28.85	10.74
Stat	INDUSTRIAL PROCESSES	METAL PROCESSES	0.02	0.49	0.00	0.01	0.01
Stat	INDUSTRIAL PROCESSES	WOOD AND PAPER	0.00	0.00	0.00	0.65	0.39
Stat	INDUSTRIAL PROCESSES	GLASS AND RELATED PRODUCTS	0.00	1.63	0.08	0.25	0.24
Stat	INDUSTRIAL PROCESSES	ELECTRONICS	0.00	0.00	0.00	0.00	0.00
Stat	INDUSTRIAL PROCESSES	OTHER (INDUSTRIAL PROCESSES)	0.47	3.55	0.13	11.03	6.18
Area	SOLVENT EVAPORATION	CONSUMER PRODUCTS	6.86	0.00	0.00	0.00	0.00
Area	SOLVENT EVAPORATION	ARCHITECTURAL COATINGS AND RELATED PROCESS SOLVENTS	2.73	0.00	0.00	0.00	0.00
Area	SOLVENT EVAPORATION	PESTICIDES/FERTILIZERS	1.71	0.00	0.00	0.00	0.00
Area	SOLVENT EVAPORATION	ASPHALT PAVING / ROOFING	2.37	0.00	0.00	0.00	0.00
Area	MISCELLANEOUS PROCESSES	RESIDENTIAL FUEL COMBUSTION	2.14	2.08	0.09	4.43	4.27
Area	MISCELLANEOUS PROCESSES	FARMING OPERATIONS	1.88	0.00	0.00	6.65	1.03
Area	MISCELLANEOUS PROCESSES	CONSTRUCTION AND DEMOLITION	0.00	0.00	0.00	23.27	2.32
Area	MISCELLANEOUS PROCESSES	PAVED ROAD DUST	0.00	0.00	0.00	17.69	2.66
Area	MISCELLANEOUS PROCESSES	UNPAVED ROAD DUST	0.00	0.00	0.00	113.02	11.66
Area	MISCELLANEOUS PROCESSES	FUGITIVE WINDBLOWN DUST	0.00	0.00	0.00	52.09	7.10
Area	MISCELLANEOUS PROCESSES	FIRES	0.02	0.01	0.00	0.04	0.04
Area	MISCELLANEOUS PROCESSES	MANAGED BURNING AND DISPOSAL	0.88	0.34	0.04	1.28	1.21
Area	MISCELLANEOUS PROCESSES	COOKING	0.86	0.00	0.00	2.56	1.55
Area	MISCELLANEOUS PROCESSES	OTHER (MISCELLANEOUS PROCESSES)	0.00	0.00	0.00	0.00	0.00
Mobile	ON-ROAD MOTOR VEHICLES	LIGHT DUTY PASSENGER (LDA)	6.65	6.54	0.05	0.50	0.30
Mobile	ON-ROAD MOTOR VEHICLES	LIGHT DUTY TRUCKS - 1 (LDT1)	3.90	4.41	0.02	0.19	0.12
Mobile	ON-ROAD MOTOR VEHICLES	LIGHT DUTY TRUCKS - 2 (LDT2)	3.50	5.76	0.03	0.36	0.24
Mobile	ON-ROAD MOTOR VEHICLES	MEDIUM DUTY TRUCKS (MDV)	1.66	3.09	0.02	0.17	0.11
Mobile	ON-ROAD MOTOR VEHICLES	LIGHT HEAVY DUTY GAS TRUCKS - 1 (LHDV1)	0.64	1.05	0.00	0.02	0.01
Mobile	ON-ROAD MOTOR VEHICLES	LIGHT HEAVY DUTY GAS TRUCKS - 2 (LHDV2)	0.28	0.33	0.00	0.00	0.00
Mobile	ON-ROAD MOTOR VEHICLES	MEDIUM HEAVY DUTY GAS TRUCKS (MHDV)	0.42	0.35	0.00	0.00	0.00
Mobile	ON-ROAD MOTOR VEHICLES	HEAVY HEAVY DUTY GAS TRUCKS (HHDV)	0.32	0.80	0.00	0.00	0.00
Mobile	ON-ROAD MOTOR VEHICLES	LIGHT HEAVY DUTY DIESEL TRUCKS - 1 (LHDV1)	0.03	1.25	0.00	0.01	0.01
Mobile	ON-ROAD MOTOR VEHICLES	LIGHT HEAVY DUTY DIESEL TRUCKS - 2 (LHDV2)	0.03	1.09	0.00	0.01	0.01
Mobile	ON-ROAD MOTOR VEHICLES	MEDIUM HEAVY DUTY DIESEL TRUCKS (MHDV)	0.07	3.39	0.00	0.08	0.07
Mobile	ON-ROAD MOTOR VEHICLES	HEAVY HEAVY DUTY DIESEL TRUCKS (HHDV)	7.54	104.92	0.10	4.83	4.23
Mobile	ON-ROAD MOTOR VEHICLES	MOTORCYCLES (MCY)	3.15	0.90	0.00	0.04	0.02
Mobile	ON-ROAD MOTOR VEHICLES	HEAVY DUTY DIESEL URBAN BUSES (UB)	0.01	0.14	0.00	0.00	0.00
Mobile	ON-ROAD MOTOR VEHICLES	HEAVY DUTY GAS URBAN BUSES (UB)	0.02	0.05	0.00	0.00	0.00
Mobile	ON-ROAD MOTOR VEHICLES	SCHOOL BUSES (SB)	0.05	0.88	0.00	0.04	0.04
Mobile	ON-ROAD MOTOR VEHICLES	OTHER BUSES (OB)	0.06	0.33	0.00	0.01	0.00
Mobile	ON-ROAD MOTOR VEHICLES	MOTOR HOMES (MH)	0.12	0.60	0.00	0.01	0.00
Mobile	OTHER MOBILE SOURCES	AIRCRAFT	4.97	3.86	0.43	3.07	3.04
Mobile	OTHER MOBILE SOURCES	TRAINS	3.56	35.22	0.31	1.19	1.09
Mobile	OTHER MOBILE SOURCES	RECREATIONAL BOATS	5.89	1.49	0.00	0.48	0.36
Mobile	OTHER MOBILE SOURCES	OFF-ROAD RECREATIONAL VEHICLES	18.48	0.79	0.23	0.22	0.16
Mobile	OTHER MOBILE SOURCES	OFF-ROAD EQUIPMENT	4.49	20.15	0.02	0.95	0.86
Mobile	OTHER MOBILE SOURCES	FARM EQUIPMENT	0.30	1.48	0.00	0.09	0.08
Mobile	OTHER MOBILE SOURCES	FUEL STORAGE AND HANDLING	0.62	0.00	0.00	0.00	0.00
		Totals (tons per day):	102.41	281.10	9.60	280.35	64.89

Appendix B – WEMO Planning Area Ambient Monitoring Sites (Detail)

County	Name	AIRS ID	AQD ID	CO	NO2	SO2	QZONE	PM10	TSP Pb	PM2_5
Inyo County	Coso Gate	060270020								
Inyo County	Coso Junction-10 miles E	060270114	1400718					S/EIINS/RC		
Inyo County	Coso Junction-Highway 395 Rest Area	060271001	1400686					S/EIINS/RC		
Inyo County	Death Valley Natl Monument	060270101	1403151				S/PU/VINS/RC	--/SII/--/BL		
Inyo County	Dirty Sox	060270022						S/SIINS/RC		
Inyo County	Flat Rock-Highway 190	060270024						S/SIINS/RC		
Inyo County	Keeler-Cerro Gordo Road	060271003	1400728					S/SIINS/RC		S/SQINS/RC
Inyo County	Olancha-E Fall Road	060270016	1400725					S/SIINS/RC		
Inyo County	Olancha-Walker Creek Road	060270021	1400729					S/SIINS/RC		
Kern County	Boron-26965 Cote Street	060260000					S/PU/VIUS/BL			
Kern County	Canebrake	060290017						S/SII/--/BL		
Kern County	China Lake-Powerline Road	060291001	1500211					S/SEIIL/RC	S/AGERS/BL	
Kern County	Inyokern-Airport	060290013	1500254					S/PSIEINS/IM		
Kern County	Mojave-923 Poole Street	060290011	1500252		S/CLIIUS/RC		S/UVIRS/HC	S/SIIINS/HC		S/SQINS/HC
Kern County	Ridgecrest-100 West California Avenue	060290015						S/SIINS/HC		S/SIINS/HC
Kern County	Ridgecrest-Las Flores Avenue	060290012	1500253					S/PSIEINS/IM		S/SEI--/RC
Kern County	Tehachapi-Jameson Road	060291005	1503165				SP,UVII--/--			
Los Angeles County	Lancaster-43301 Division Street	060379033		S/IRINS/--	S/CLINS/--		--/LVIMS/--	S/SIINS/--		S/--IINS/--
Los Angeles County	Lancaster-W Pondera Street	060379002	7000096	S/IRINS/RC	S/CLINS/RC		S/UVINS/RC	S/SIINS/RC		S/SQINS/RC
Los Angeles County	Palmdale	060379006					SPUVIRS/BL			
Riverside County	Blythe-445 West Murphy Street	060659003					S/UVII--/--			
Riverside County	Joshua Tree National Park-Pinto Wells	060651004								
San Bernardino County	Baldy Mesa	060719006					SP,UVINS/BL			
San Bernardino County	Barstow	060710001	3600155	S/IRINS/RC	S/CLINS/RC	S/FLIINS/RC	S/UVINS/RC	S/SIINS/RC	S/XGIINS/RC	
San Bernardino County	Flash Mountain	060719007					SPUVIUS/BL			
San Bernardino County	Hesperia-Olive Street	060714001	3600201	S/IRINS/RC	S/CLINS/RC	S/FLIINS/RC	S/UVINS/RC	S/SIINS/RC	S/XGIINS/RC	
San Bernardino County	Joshua Tree-National Monument	060719002	3603152		--/FLII--/BL		SPUVIRS/RC	--/SII--/BL		
San Bernardino County	Lucerne Valley-Middle School	060710013	3600208					S/SIINS/RC		
San Bernardino County	Ludlow	060719000					SPUVISRS/BL			
San Bernardino County	Mojave National Preserve	060711001								
San Bernardino County	Phelan-Beekley Road and Phelan Road	060710012	3600207	S/IRINS/RC	S/CLINS/RC	S/FLIINS/RC	S/UVINS/RC			
San Bernardino County	Quartzite Mountain	060719008					SPUVINS/BL			
San Bernardino County	Shadow Mountain	060719063					SPUVIUS/BL			
San Bernardino County	Trona-Athol	060710015	3600210		S/CLINS/RC	S/FLIRS/RC	S/UVIRS/RC	S/SIINS/RC	S/AGEINS/RC	
San Bernardino County	Trona-Athol and Telegraph	060711234			S/CLINS/RC	S/FLIRS/RC	S/UVIRS/RC	S/SIINS/RC		
San Bernardino County	Twentynine Palms-Adobe Road #2	060710017	3600211	S/IRINS/RC	S/CLINS/RC	S/FLIINS/RC	S/UVINS/RC	S/SIINS/RC		
San Bernardino County	Victorville-14306 Park Avenue	060710306		S/--/--/--	S/CLS--/--		S/UVII--/--			S/SQINS/RC
San Bernardino County	Victorville-Armagosa Road	060710014	3600209	S/IRINS/RC	S/CLINS/RC	S/FLINS/RC	S/UVINS/RC	S/SIINS/RC		S/SQINS/RC
Riverside County	Joshua Tree National Park	060650008					--/UVII--/BL			
Riverside County	Banning Airport	060650012	3300164		P,S/CLIINS/RC		P,S/UVINS/RC	S/SIINS/RC		
Riverside County	Banning-Allesandro	060650002	3300150	--/IRINS/RC		--/CMINS/RC	S/UVIMS/RC	S/SIINS/RC	S/XGIINS/RC	
Riverside County	Riverside-Rubidoux	060653001	3300144	S/IRINS/RC	S/CLIUS/RC	S/FLINS/RC	S/UVINS/RC	S/SIINS/HC	S/AGINS/RC	S/SQINS/HC
San Bernardino County	Big Bear City-501 W. Valley Blvd	060718001								S/SQINS/RC
San Bernardino County	Crestline	060710005	3600181	--/IRI--/--	--/CLII--/--		S/UVINS/HC	S/SIINS/RC	S/XGIINS/RC	
San Bernardino County	Mount Baldy-Mount Baldy Road	060710217		--/IRI--/--			--/UVII--/--			
San Bernardino County	San Gorgonio Wilderness	060719010						--/SII--/BL		

Name	QP Agency	Active	WS	WD	Temp	DPT	RH	SOL	UV	Press	Latitude	Longitude	Elevation Site
Coso Gate	Great Basin Unified APCD	*	97-00	97-00	97-00		97-00				36.0688	-117.755	1329 3252
Coso Junction-10 miles E	Great Basin Unified APCD										36.0338	-117.7368	NA 2366
Coso Junction-Highway 395 Rest Area	Great Basin Unified APCD	*	97-00	97-00	97-00		97-00				36.0497	-117.9436	1027 2248
Death Valley Natl Monument	National Park Service	*	93-09	93-09	93-09		93-09	93-09			36.5089	-116.8478	125 3151
Dirty Sox	Great Basin Unified APCD	*	99-08	99-08	07-08						36.3261	-117.955	1060 3260
Flat Rock-Highway 190	Great Basin Unified APCD	*	01-08	01-08	07-08						36.4219	-117.8366	1133 3497
Keeler-Cerro Gordo Road	Great Basin Unified APCD	*	97-00	97-00	97-09						36.4877	-117.8711	1097 3154
Olancha-E Fall Road	Great Basin Unified APCD		95-97	95-97	95-97		95-97			97-97	36.2755	-117.9897	1097 3118
Olancha-Walker Creek Road	Great Basin Unified APCD	*	97-09	97-09	97-09		97-09			97-09	36.2933	-117.9916	1100 3210
Boron-26965 Cote Street	ARB Contractor		95-95	95-95	95-95						35.0036	-117.6511	750 3218
Canebrake	California ARB	*									35.7279	-118.13932	914 3761
China Lake-Powerline Road	Kern County APCD										35.7102	-117.6397	697 2774
Inyokern-Airport	Great Basin Unified APCD										35.6513	-117.8241	759 3123
Mojave-923 Poole Street	California ARB/Kern County APCD	*	95-09	95-09	95-09					99-09	35.0333	-118.1478	853 3121
Ridgecrest-100 West California Avenue	Kern County APCD	*	08-09	08-09	08-09					08-09	35.6211	-117.6731	701 3492
Ridgecrest-Las Flores Avenue	Kern County APCD										35.6299	-117.6692	723 3122
Tehachapi-Jameson Road	California ARB	*	95-95	95-95	95-95						35.1333	-118.425	1167 3165
Lancaster-43301 Division Street	Antelope Valley APCD	*	01-09	01-09	01-09					01-09	34.6713	-118.1305	725 3658
Lancaster-W Pondera Street	Mojave Desert AQMD		94-01	94-01	98-01					98-01	34.6899	-118.1327	725 3007
Palmdale	ARB Contractor		95-95	95-95							34.5569	-118.1116	841 3219
Blythe-445 West Murphy Street	Mojave Desert AQMD	*	03-09	03-09	03-09						33.6119	-114.6	83 3673
Joshua Tree National Park-Pinto Wells	National Park Service	*	07-08	07-08	07-08		07-08	07-08			33.9397	-115.4108	326 3732
Baldy Mesa	ARB Contractor		95-95	95-95	95-95						34.375	-117.4477	1295 3259
Barstow	Mojave Desert AQMD	*	94-09	94-09	94-09					01-09	34.8938	-117.0244	690 2923
Flash Mountain	ARB Contractor		95-95	95-95	95-95						34.7375	-117.565	1013 3221
Hesperia-Olive Street	Mojave Desert AQMD	*	94-09	94-09	94-09					01-09	34.4158	-117.2861	1006 2650
Joshua Tree-National Monument	National Park Service	*	93-09	93-09	93-09	93-95	91-09	93-09			34.0694	-116.3888	1244 3152
Lucerne Valley-Middle School	Mojave Desert AQMD										34.4103	-116.9067	1036 2961
Ludlow	ARB Contractor		95-95	95-95	95-95						34.7247	-116.1577	543 3257
Mojave National Preserve	National Park Service	*	98-08	98-08	98-08		98-08	98-08			35.1019	-115.7767	1212 3733
Phelan-Beekley Road and Phelan Road	Mojave Desert AQMD	*	94-09	94-09	97-09						34.425	-117.5897	1250 2830
Quartzite Mountain	ARB Contractor		95-95	95-95							34.6116	-117.2888	1366 3222
Shadow Mountain	ARB Contractor		95-95	95-95							34.6116	-117.565	1256 3220
Trona-Athol	Mojave Desert AQMD		94-97	94-97	97-97					97-97	35.7742	-117.3686	498 2990
Trona-Athol and Telegraph	Mojave Desert AQMD	*	97-09	97-09	97-09					97-09	35.7744	-117.3722	545 3215
Twentynine Palms-Adobe Road #2	Mojave Desert AQMD	*	94-05	94-05	97-05					97-05	34.1418	-116.0553	607 3124
Victorville-14306 Park Avenue	Mojave Desert AQMD	*	00-09	00-09	00-09			00-09		00-09	34.5122	-117.325	913 3500
Victorville-Armagosa Road	Mojave Desert AQMD		94-09	94-09	94-09			94-99		97-99	34.5041	-117.3297	876 2963
Joshua Tree National Park	National Park Service	*	05-09	05-09	05-09		05-09	05-09			33.7411	-115.8206	984 3697
Banning Airport	South Coast AQMD	*	97-09	97-09	97-09		97-09	98-09	01-09	00-09	33.9208	-116.8583	473 3168
Banning-Allesandro	South Coast AQMD	*	94-09	94-09							33.9211	-116.8583	722 2514
Riverside-Rubidoux	South Coast AQMD	*	94-09	94-09	94-09		04-09				34.0005	-117.4152	250 2596
Big Bear City-501 W. Valley Blvd	South Coast AQMD	*									34.2644	-116.8644	2056 3266
Crestline	South Coast AQMD	*	94-09	94-09			94-09				34.2413	-117.2755	1384 2499
Mount Baldy-Mount Baldy Road	California ARB		97-97	97-97	97-97		97-97				34.2391	-117.6208	1335 3212
San Gorgonio Wilderness	National Park Service						93-04				34.19390	-116.9132	1726 3700

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APPENDIX E

HISTORY OF TRAVEL MANAGEMENT IN THE WEST MOJAVE PLANNING AREA OF THE CDCA

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Purpose:

The purpose of this Appendix is to discuss the many phases and efforts that have affected travel management on the public lands within the West Mojave Planning Area (WEMO) of the California Desert Conservation Area (CDCA), and that have led to the current route inventory in this plan.

The inventory for this plan, completed in 2012, revealed almost 15,000 miles of linear features on the ground in the planning area. Within the 2.35 million acres of limited access public lands within the planning area, this averages to about 4 miles of routes per section—in other words, two North-South routes and two East-West routes through each section.

However, this seems like an overwhelming number of miles of routes, since the latest inventories for the 2006 WEMO Plan revealed just over half as many miles in the West Mojave Planning area, approximately 8,000 miles. So, how and why are we where we are?

Pre-CDCA Plan:

Management of off-highway vehicle (OHV) use on the public lands is based on Executive Orders, the Federal Land Policy and Management Act of 1976, as amended (FLPMA), and 43 CFR Part 8340. On February 8, 1972, President Richard Nixon issued Executive Order 11644—Use of off-road vehicles on the public lands. This Order established the first uniform policies regarding OHV use on public lands. The Secretaries of Interior, Agriculture, and Defense were directed to develop and issue regulations that would designate areas and trails on public lands on which the use of OHVs might be permitted and those which may not be permitted for OHV use. The Order also required the development of operating conditions, public information, appropriate penalties for violations of regulations adopted pursuant to the order, and the monitoring of the effect of the use of OHV's on lands under their jurisdiction.

The Federal Land Policy and Management Act (FLPMA) of 1976, as amended (FLPMA) is considered the "organic act" for the BLM and establishes the agency's multiple use mandate to serve present and future generations of Americans. FLPMA specifically addresses transportation and motorized vehicle access in several sections. Title V authorizes the issuance of rights-of-way for use of the public lands for such features as roads, trails, highways, livestock driveways, or other necessary means of transportation which are in the public interest and which require a right-of-way to cross the public lands. Title VI established the CDCA and specifies that the use of all California desert resources can and should be provided for in a multiple use and sustained yield management plan, to conserve resources for future generations, to provide for the present and future use and enjoyment, particularly outdoor recreation uses, including the use, where appropriate, of off-road recreational vehicles (OHV) (43 USC 1781).

On May 24, 1977, President Jimmy Carter issued Executive Order 11989 –Off-Road Vehicles on Public Lands to amend Executive Order 11644 by adding Section 9. Section 9(a) directs that if a determination is made that OHV use will cause or is causing considerable adverse effects on the soil, vegetation, wildlife, wildlife habitat, or cultural or historic resources of an area or trail on public lands, that the agency immediately close the area or trail to the type of vehicle causing the damage, until such time as it is determined that such effects have been eliminated and that measures have been implemented to prevent future recurrence. Additionally Section 9(b) authorizes the adoption of policy that parts of the public lands shall be closed to use by OHV except those areas and trails which are suitable and specifically designated as open to such use pursuant to Section 3 of the Order.

FLPMA and these two executive orders formed the basis of the guidance found in Part 8340 of Title 43 of the Code of Federal Regulations, which were developed by the Secretary of the Interior for the Bureau of Land Management. Subparts within Part 8340 establish conditions of use, vehicle operations standards, and penalties. Specifically Subpart 8342 outlines the designation criteria, procedures, and changes related to designation of areas and trails available for use by OHVs. All public lands are to be designated as open, limited, or closed to OHVs. These designations are to be based on the protection of the resources of the public lands, promotion of the safety of all the users of the public lands, and the minimization of conflicts among various uses of the public lands.

1980 CDCA Plan:

With the passage of FLPMA the Congress found that "the California desert contains historical, scenic, archeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources that are uniquely located adjacent to an area of large population." It also found that its resources, "including certain rare and endangered species of wildlife, plants and fishes, and numerous archeological and historic sites" are "seriously threatened by air pollution, inadequate Federal management authority, and pressures of increased use, particularly recreational use,". Congress stated that "the use of all California desert resources can and should be provided for in a multiple use and sustained yield management plan to conserve these resources for future generations, and to provide present and future use and enjoyment, particularly outdoor recreation uses, including the use, where appropriate, of off-road recreational vehicles." To accomplish this, BLM was directed to prepare a plan for the "management, use, development, and protection of public lands within the California Desert Conservation Area" (of which the western Mojave Desert comprises the northwestern third). The plan would "take into account the principles of multiple use and sustained yield in providing for resource use and development, including, but not limited to, maintenance of environmental quality, rights of way, and mineral development."

The plan that was developed is the California Desert Conservation Area (CDCA) Plan which was completed in 1980. The stated goal of the CDCA Plan is to "provide for the use of the public lands and resources…including economic, educational, scientific, and recreational uses". To achieve the goal of the Plan management actions are first based on a geographic basis using guidelines establishing four Multiple Use classes. The Multiple Use classes are Class C (Controlled Use), L (Limited Use), M (Moderate Use) and I (Intensive Use). Small areas were left "Unclassified", due to their scattered or isolated location.

These guidelines are further clarified, refined, and expressed in goals for each Plan Element. There are twelve Plan Elements covering the major resources or issues of public concern that were identified during the CDCA planning process. Those Elements of the CDCA Plan that have access management goals or objectives, or discuss the need for access to desert resources are the Motorized-Vehicle Access; Recreation; Wilderness, Geology, Energy, and Mineral; and the Energy Production and Utility Corridors Elements.

As part of the CDCA Plan, and in accordance with Executive Orders 11644 and 11989, all public lands in the CDCA were designated as open, closed, or limited to vehicle use. The designations were made on the basis of multiple-use classes with certain exceptions set forth in the Motorized Vehicle Access (MVA) Element. These designations are displayed on CDCA Plan Map Number 10 – Motorized-Vehicle Access.

Amendments to the CDCA:

The CDCA Plan was written based on the concept that it would provide the framework for management of the CDCA for the next 20 years and in some situations and actions much further into the future. It was recognized at the time of writing that it could not be cast in concrete and therefore provided for the ability to be amended as needed to adjust to needed changes and to acknowledge better ways of doing things in the future.

Between 1981 and 1990, amendments to the Plan were made on an annual or biennial basis. The CDCA Plan reprint of 1999 includes a full review of the amendments made to the plan between 1980 and 1999. The following is a description of the more significant changes that effected travel management within the WEMO planning area.

Amendments to the Plan that had the largest effect on travel management occurred in 1982 and 1985. The 1982 Amendment revised the Motorized Vehicle Element while the Goals for all Plan Elements were restated in 1985.

The 1982 Amendment incorporated 43 CFR 8340 into the Motorized Vehicle Access Element and made changes and clarified the Open, Closed, and Limited Area designations. While public vehicle travel is permitted anywhere in Open Areas and no public vehicle travel is allowed in a Closed Area, Limited areas are more complicated. Limited vehicle access means that motorized-

vehicle access is allowed only on certain "routes of travel." This was described in the CDCA Plan: "At the minimum, use will be restricted to existing routes of travel." The 1982 amendment defined that an existing route as "a route established before approval of the Desert Plan in 1980, with a minimum width of two feet, showing significant surface evidence of prior vehicle use or for washes, history of prior use." Depending on the particular Multiple Use class and the degree of control needed in a particular area, Limited Areas were managed differently:

> Class I: "Unless it is determined that further limitations are necessary, those areas not "open" will be limited to use of existing routes."
>
> Class M: "access will be on existing routes, unless it is determined that use on specific routes must be limited further."
>
> Class L: "Due to higher levels of resource sensitivity in Class L, vehicle access will be directed toward use of approved routes of travel. Approved routes will include primary access routes intended for regular use and for linking desert attractions for the general public as well as secondary access routes intended to meet specific user needs. Routes not approved for vehicle access will be reviewed and, after opportunity for public comment, those routes deemed to conflict with management objectives or to cause unacceptable resource damage will be given priority for closure."... "All remaining routes of travel will be monitored for either inclusion as approved routes or for closure to resolve specific problems."
>
> Class C and ACECs: "In Class C areas prior to wilderness designation by Congress, and in ACECs where vehicle use is allowed, vehicle access will be managed under the guidelines for Class L."
>
> Unclassified areas: "In areas not assigned to a Multiple-Use Class, the route approval process will be applied as needed to resolve specific problems and to establish a cohesive program."

Additionally, the 1982 Amendment identified the concept of individual Route Designation in addition to Area Designations. Routes could be designated as "open," "closed," or "limited" for motor vehicle use which was generally tied to area designation. "Open" routes allowed for access by motorized vehicles. "Closed" routes prohibited motorized vehicles access with the exception of use for emergency purposes, national defense purposes, use expressly authorized under permit, lease, or contract, and for official purposes. "Limited" routes allowed motorized vehicles to travel on the route but that use could be restricted. Some of the restrictions could be types of vehicles, season of use, or permitted or licensed vehicles only. Route designations could be made in each of the four multiple use classes, in ACECs, and in unclassified lands. Routes designations could not be made in Congressionally designated wilderness areas.

Following the concept of designation the MVA Element developed an Implementation approach to the management of vehicle designations. Within this section it was recognized that the implementation of "Limited" areas would "require detailed analysis to insure that each area's limitations are appropriate to the issues and resources involved. Until such limitations are put into effect, these areas will be managed on an interim basis as explained under "Interim Management of Vehicle Access"' guidelines. These guidelines specified that "Existing routes of travel may be used in all Class L and M areas, and in those Class I areas not designated open and in unclassified lands, unless other limitations are in effect. In Class C areas, vehicle use will occur as if the areas were Class L until such time as the area formally becomes wilderness, except in those cases where vehicle use could impair wilderness suitability."

1985-1987 Route Designation Effort

Shortly after the completion of the CDCA Plan the route designation process began. In June 1981, the BLM published a set of 21 maps titled Motorized Vehicle Interim Access Guides (IAG), which covered all of the BLM administered public lands within the CDCA. These maps were distributed to the public for their use, input, and review in order to gather information on the existing route network within the CDCA. Also in the fall of 1981 each Resource Area Office developed an Ad Hoc Advisory Committee. These groups were to include a good cross section of desert users. These ad hoc groups held meetings and took field trips with the intent of working towards the goal of helping to develop a designated route system for the public lands.

In addition to the Ad Hoc Advisory Committees efforts, during the early 1980s, BLM staff began gathering existing route data using a collection of 15 & 7 ½ minute United States Geological Survey (USGS) topographic maps, aerial photography, and field checks. No extensive field inventory was conducted at the time. Based on this gathered information and input of the Ad Hoc Committee BLM staff developed a designated route network of motorized vehicle routes throughout the planning area. The staff documented their recommendations for routes on forms titled "Vehicle Route Designation Recommendation/Decision". These forms included space for describing the resource values of special concern for the area, whether the route traveled across or provided access to private lands, the complete text of 43 CFR 8342.1 Designation Criteria, and selection of a recommendation-proposed designation (Open, Closed, Limited). If a Closed or Limited recommendation was chosen the criteria from 43 CFR 8342.1 that the designation was based upon was to be indicated, along with space provide decision rational and explanation of the route's Limited or Closed status. This designation criteria was followed up with space for signatures by the Staff specialist making the recommendation, approval by the Area Manager, and concurrence by the District Manager.

These recommendations resulted in the development of Draft Routes of Travel Decision Maps. These maps were sent out to the public, the Ad Hoc Advisory Committee, and were distributed at public meetings being held to solicit input on the proposed route network. At the completion of

the public comment period, input was reviewed and changes made to the system as deemed appropriate thus creating the final route designations. These efforts culminated and became effective with the publication of notices in the Federal Register for the Ridgecrest Field Office (50 FR 33856; August 21, 1985) and for the Barstow Field Office (50 FR 23364; June19, 1987, and 52 FR 35589; September 22, 1987).

Additionally, other route designation efforts occurred before and after the far reaching 1985-87 route designation efforts mainly related to ACECs. Specific area route designations efforts were frequently included as part of the ACEC Plan development efforts to further ACEC management goals and objectives. These efforts generally occurred between 1982 and 1995. These ACEC designations included route networks for the following ACECs: Afton Canyon (1989), Amboy Crater (year unknown), Barstow Woolly Sunflower (1982), Bedrock Springs (1987), Big Morongo Canyon (1982 and 1996), Black Mountain (1988), Calico Early Man Site (1984), Cronese Basin (1984), Desert Tortoise Research Natural Area (1988), Fossil Falls (1986), Great Falls Basin (1987), Harper Dry Lake (1982), Jawbone/Butterbredt (1982), Juniper Flats (1988), Last Chance Canyon (1982), Mojave Fishhook Cactus (1990), Rainbow Basin (1991), Red Mountain Spring (1987), Rose Springs (1985), Sand Canyon (1989), Short Canyon (1990), Soggy Dry Lake Creosote Rings (1982), Steam Well (1982), Trona Pinnacles (1989), Upper Johnson Valley Yucca Rings (1982), Western Rand Mountains (1994) and Whitewater Canyon 1982).

Desert Access Guides

Between the late 1980s and the mid-1990s, BLM published twenty-one Desert Access Guide maps of the CDCA Plan area. Within the Ridgecrest and Barstow field office boundaries, these maps displayed the route networks designated in 1985 and 1987, and the networks designated for the ACECs. These DAGs were distributed for public use.

Listing of the Desert Tortoise

In April 1990 the Mojave population of the Desert Tortoise was listed by the United States Fish and Wildlife Service as threatened.

Ord Mountain Pilot Off-Road Vehicle Designations

In 1995, the BLM issued an emergency closure of routes in the Ord Mountain area in response to the 1994 designation of critical desert tortoise habitat in the area. The emergency closure utilized available on the ground knowledge, topographic maps, and early West Mojave Plan data that had already been collected in this sensitive area, to identify a total of 549 miles of routes in

the area and designate 100 miles of routes on public lands as open. In response to public feedback on the emergency network, BLM undertook a pilot project within the Ord Mountain area to test methods to acquire a more complete inventory of routes of travel and revisit the emergency closure designations.

As part of the review, the Natural Applied Research Science Center (NARSC) was contracted to conduct a pilot project using low-level aerial photography to digitally record routes. The data was then captured using early GIS digitizing technology and computer evaluation to verify the inventory in the area. An additional 113 miles of routes was identified based on the aerial data review and field reviews by the public and BLM for a total of 662 miles over an area covering just under 125,000 acres. On public lands, 547 miles were identified on 102,135 acres, which did not include routes and lands received as a result of the recent 11,835-acre Catellus acquisitions in January, 2000. This proposed network was developed from public input and evaluated in the Ord-Mountain Route Designation EA, published and approved in 2000.

The Ord pilot project had some limitations but was considered successful in improving and augmenting on-the-ground inventory information. However, due to its expense, the Ord Pilot project could not be applied on a larger scale. Following the development of the Ord Pilot Project inventory, a large scale satellite-photography based draft route system was developed in about 1997. This route system was developed using mid-1990's satellite photography and a custom-designed computer program that analyzed the satellite photos and identified linear features possessing shades of gray that matched the gray associated with a route. A computer modeling program was used due to the lack of staffing available to do heads up digitizing at the time. Once the computer based route system was finished it was field checked for accuracy. The field check identified that what appeared to be "routes" in the satellite photos were sometimes fence lines and other non-route ground features. Because of these problems this draft system and inventory was abandoned and a GPS field inventory was undertaken beginning in the fall of 2001.

Redesign Effort

In the mid-1990s, BLM began a process to redesign a portion of the existing 1985 and 1987 route networks (WEMO redesign area). The primary focus of the WEMO redesign area became Desert Tortoise critical habitat. Certain other sensitive areas were also included in the redesign of the network. This redesign effort was known as the Western Mojave Desert Off Road Vehicle Designation Project, and it was approved by a Decision Record signed on June 30, 2003 (2003 WEMO Route Designation Project).

2003 Western Mojave Desert Off Road Vehicle Designation Project

The 2003 WEMO Route Designation Project built upon these earlier planning efforts. Its purpose was to update the previous route designation efforts, taking into account new or significant planning issues like the listing of the desert tortoise as a threatened species in 1990. Of the 3.1 million acres of public land within the planning area, the 2003 Route Designation Project addressed 2.35 million acres of public land because it only addressed limited access lands. The overall planning area for the 2003 WEMO Route Designation Project is synonymous with the region that was also addressed by the 2006 West Mojave Plan, an interagency habitat conservation plan that developed conservation strategies for over 100 sensitive plant and animal species.

Due to the size of the area covered by the WEMO Plan, 3.1 million acres of public lands in a larger 9.4 million area of contiguous lands, it was determine that the most effective way to approach route designation was to subdivide the WEMO Plan area into manageable and recognizable designation planning units. This effort resulted in the creation of twenty-one "subregions". These twenty-one subregions included: Amboy, Bighorn, Coyote, East Sierra, El Mirage, El Paso, Fremont, Granite, Juniper, Kramer, Middle Knob, Morongo, Newberry-Rodman, North Searles, Ord, Pinto, Ridgecrest, Red Mountain, Sleeping Beauty, South Searles and Superior. These twenty-one subregions cover approximately 1.3 million acres of public lands which is 42 percent of the overall planning area. In addition to the new subregions the planning effort would also incorporate the route designations efforts for the ACECs where route designation had been completed, the Ord Mountain Pilot Project and the remaining areas covered by the 1985-87 designation efforts. Some of this additional data was within one or more of the twenty-one subregions.

Based on the level of resource sensitivity eleven of the twenty-one subregions were selected for detailed updating in the Designation Project. The eleven subregions were: Ridgecrest, El Paso, Middle Knob, Red Mountain, Fremont, Kramer, El Mirage, Superior, Coyote, Newberry-Rodman, and Juniper. Seven of these subregions were within Desert Tortoise critical habitat: Coyote, El Mirage, Fremont, Kramer, Newberry-Rodman, Red Mountain and Superior. Middle Knob included sensitive plant habitat. Two others, El Paso and Ridgecrest were located close to the City of Ridgecrest, and both were popular areas with increasing motorized vehicle use. Finally, the Juniper subregion was included for a new field inventory in response to comments made during the public review of the Draft WEMO Environmental Impact Statement.

Nine subregions were not selected for new field inventories. They included: Amboy, Bighorn, East Sierra, Granite, Morongo, North Searles, Pinto, Sleeping Beauty, and South Searles. These nine were not significantly affected by the issues associated with the other subregions. In these nine subregions, the existing 1985 and 1987 route networks were retained. The 2003 WEMO Route Designation Project made only a few minor corrections to the existing network in these subregions. These corrections included the realignment of some routes at boundaries between

the ACEC networks and the 1985 and 1987 networks, to ensure that the routes connected seamlessly.

Between September 2001 and March 2002, thirteen field crews inventoried nearly 4,400 miles of motorized vehicle access routes within ten of the elven subregions that were selected for detailed updating. These ten subregions encompass about 774,000 acres of public lands, which is 33 percent of the Limited access portions of the overall WEMO Planning area. The Juniper subregion ended up not getting a detailed field inventory due to time constraints and the availability of route data that was considered adequate at the time to meet the needs of a more detailed update. During this time frame nine of the subregions (excluding the Juniper subregion) were inventoried.

During the inventory process both four wheel drive and motorcycle crews participated in the survey. Routes were recorded using global positioning system (GPS) technology. The nature of the route (graded gravel, good dirt, motorcycle trail) was recorded, and nearly two dozen types of pertinent desert features mapped (including campsites, mines, trailheads, and water sources). This information was transferred into the planning team's digital GIS library. In addition, data collected for the development of 1985 and 1987 designation efforts, and during the preparation of BLM management plans for ACECs between 1980 and the late 1990s, was digitized and stored in the GIS database.

Eight of the ten inventoried subregions and the Juniper subregion, along with minor revisions to the nearly 20 year old designation efforts of 1985- 1987, the nearly 10 to 20 year old ACEC Plans with route designations, and the more recent Ord pilot project designations, served as the basis for the evaluation in BLM's 2003 Environmental Assessment and Decision Record for the 2003 WEMO Route Designation Project. The nine subregions encompassed about 698,000 acres of public lands, representing 35 percent of the overall Limited access public lands within the planning area. Minor revisions occurred in 2 other subregions, the North Searles and El Mirage subregions, and in the Black Mountain ACEC. In addition various edge matching of routes occurred at 25 locations to align the ACEC, 1985-87, and 2003 designation boundaries. For the El Paso Mountains and Ridgecrest subregions the existing 1985-87 network was adopted until the completion of a collaborative planning effort could be done in coordination with local jurisdictions and the general public. Upon completion of this planned collaborative effort and NEPA analysis the 1985-1987 route network would then be amended and an updated network would then be established for the El Paso and Ridgecrest subregions.

The purpose of the 2003 WEMO Route Designation Project was to update the existing West Mojave route designations, and to adopt the revised route network as a component of the CDCA Plan, while the 2006 WEMO Plan was under development. The 2003 WEMO Route Designation Project evaluated four route network alternatives, including the Proposed Action, Enhanced Ecosystem Protection, Enhanced Recreation Opportunities, and No Action. The resulting Record of Decision selected Alternative A, the Proposed Action, which was based on

the existing route designations, modified to incorporate a revised network within desert tortoise critical habitat and other sensitive resource areas. The other two action alternatives included the same or very similar route networks, with more or fewer restrictions on the routes. That network, totaling 5,098 mile of routes, served as the basis for the route network alternatives evaluated in the 2006 WEMO Plan.

In summary, the June 30, 2003 Decision Record approved a new route network within ten subregions. This new route network included designations of routes in the Coyote, El Mirage, Fremont, Juniper, Kramer, Middle Knob, Newberry-Rodman, Red Mountain, Ridgecrest and Superior subregions. In all other areas, the 2003 Decision Record made no change to the existing designated route network (except for a few minor network connections). The 2003 Decision Record approved the Ord Pilot network, based on the environmental assessment prepared for that area in 2000. The existing route networks designated in 1985 and 1987, and for ACECs designated between 1982 and 1996, remained in effect. This includes the Western Rand Mountains ACEC network. The 2003 Decision Record established the El Paso Collaborative Access Planning Area for the El Paso subregion, and directed BLM to design a revised motorized vehicle access network for that subregion in collaboration with local jurisdictions and the general public (not yet completed).

2006 West Mojave Plan

The route designations adopted in the 2003 WEMO Route Designation Project effort considered the baseline for the No Action Alternative in the development of the 2006 WEMO Plan. The baseline was subjected to minor modifications and a field survey was conducted in one additional subregion—Juniper Flats. The EIS for the 2006 WEMO Plan evaluated seven alternatives which addressed various use restrictions, using the findings in the 2003 WEMO Route Designation Project as a point of departure. With respect to travel management, the use restrictions on the routes varied among the 2006 WEMO FEIS alternatives, but the overall mileage of the network did not vary. The proposed network evaluated in the 2005 WEMO FEIS consisted of the 2003 network with modifications in specific areas. The Record of Decision (ROD) adopted the FEIS proposed action with minor modifications, resulting in the 5,098 mile network of the 2006 WEMO Plan.

Vehicle Access Decisions in 2006 WEMO ROD

In 2006, the BLM approved a comprehensive amendment covering the WEMO Planning area of the CDCA. Key elements of the CDCA Plan that were updated for the WEMO Planning Area include the Wildlife Element, the Vegetation Element, the Grazing Element, the Recreation Element, and the Motor Vehicle Access Element.

The vehicle route network approved in the 2006 WEMO Plan was based on the 2003 vehicle route network, with the following modifications:

- The mileage of non-motorcycle routes in higher density tortoise population areas was decreased from 439 miles to 384 miles;
- The mileage of vehicle routes within ACECs was reduced from 427 miles to 406 miles; and
- Within the Juniper subregion, a redesigned vehicle access network was adopted that consisted of 73 miles of open routes and 25 miles of routes that would be limited to use by single-track vehicles (motorcycles), which replaced the 152 miles of open routes that had been adopted in 2003.

Overall, the 2006 WEMO Plan included modification of the vehicle management decisions, including OHV route designations, on more than 2.35 million acres of Limited access public land within the CDCA. The ROD for the 2006 WEMO Plan approved the designation of 5,098 miles of motorized vehicle routes.

The 2006 WEMO Plan Amendment approved a total of 12 separate decisions, each affecting multiple geographical areas with the planning area. Most of the decisions focused on establishment or adjustment of ACECs for biological resources and changes to multiple use classes to reflect an increased resource protection balance. The specific decision components related to Motorized Vehicle Use and route designations made in the 2006 WEMO ROD, are as follows:

- Decision 5: Recommendations made in the 1994 Rand Mountains-Fremont Valley Management Plan were adopted, including adoption of the proposed motorized vehicle access network to be managed with an educational permit system.
- Decision 6: The motorized vehicle access network in the Afton Canyon Natural Area was adopted.
- Decision 9: The motorized vehicle access network in the remainder of the planning area was adopted, and included minor modifications of the 2003 route network, a redesign of the Juniper subregion, and route closures in the Lane mountain milkvetch ACEC, Barstow woolly sunflower ACEC, the Mojave monkeyflower ACEC, and the Red Mountain subregion. The approved network also included the opening of a 9-mile undesignated route east of Haiwee Reservoir, and establishment of competitive "C" routes northeast of the Spangler Hills Open Area.
- Decision 10: The Stopping, Parking, and Camping Section of the CDCA Plan Motorized Vehicle Access Element was modified to incorporate restrictions within DWMAs, including limiting camping to previously existing disturbed camping areas adjacent to open routes and limiting stopping and parking to within 50 feet of the centerline of open routes.

- Decision 11: The portion of the Barstow to Vegas Race Course within the WEMO Planning area was deleted.
- Decision 12: The use of the Stoddard Valley to Johnson Valley Connector was modified to establish a connector route, and to delete its availability for competitive speed events.

In addition to decisions that were proposed in the 2005 EIS, the 2006 ROD made modifications as a result of resolution of protests. These modifications included specific changes to route designations in the Red Mountain, Ord, Newberry Rodman, Fremont, and Juniper Subregions, and in Stoddard Valley. The specific routes designations are listed in the 2006 ROD.

The 2006 WEMO ROD also continued the administrative closure affecting 26 miles of selected dirt roads in a 17,000-acre area of the Rand Mountains, in order to allow time to complete work necessary to implement an educational program and permit system for recreational users.

The following seven management prescriptions for motorized vehicles (designated as "MVs" in the FEIS) were proposed as take avoidance measures:

- Open Routes (MV-1): Routes designated open would be available for a variety of uses including commercial, recreational, casual access, and non-competitive permitted uses. No motorized vehicles would be allowed to travel off of designated routes, except in emergency situations, or with the explicit permission of the BLM, or as specifically noted below.
- Speed Limits (MV-2): With respect to speed limits on unimproved roads, current law would apply. Basic Speed Law (38305) of the 2001 Vehicle Code, Traffic Laws states: "no person would drive an off-highway motor vehicle at a speed limit greater than is reasonable or prudent and in no event at a speed which endangers the safety of other persons and property."
- Speed Regulators (MV-3): Within DWMAs, there is no proposal to install speed regulators; however, if monitoring or studies show that certain unimproved roads are causing increased tortoise mortality, the BLM will consider ways, including speed regulators, to reduce or avoid that mortality.
- Washes (MV-4): On public lands, motorized vehicle travel in washes would be allowed only in those washes that are designated as "open routes" and signed as appropriate.

2015 West Mojave Desert Plan Amendment Supplemental EIS

The 2015 West Mojave Desert Plan Amendment Draft Supplemental EIS is being developed as a result of legal action that was brought against the 2006 WEMO Plan. The Record of Decision for the West Mojave Plan /Amendment to the CDCA Plan was signed in March 2006. In August of 2006, eleven environmental organizations sued the Bureau of Land Management (BLM) and the U.S. Fish and Wildlife Service (FWS) claiming the BLM's designation of an off-highway

vehicle route network throughout the WEMO planning area violated FLPMA. The plaintiffs also claimed that the Environmental Impact Statement and Environmental Impact Report for the West Mojave Plan violated the National Environmental Policy Act of 1969. The court order of September 2009 left in place most of the WEMO Plan and found no Endangered Species Act violations. However, the court ruling did fault the methods used to identify and designate the nearly 5,100 miles of off-road routes throughout the WEMO Plan area. Subsequently, a court Remedy Order of January 2011, remanded the 2006 WEMO Plan to the BLM and directed the BLM to prepare a revised OHV route network that complies with the designation criteria in 43 CFR 8342.1 .

In response to the court's ruling BLM re-considered the previous route designation efforts and identified the following issues and concerns;

1. Age of decisions

   The route designations of 1985 – 1987 today are nearly 30 years old.

   ACEC Plans which included route designations that were written between 1982 and 1995 and are approximately 20 to 30 years old.

2. Increase in population and amount of vehicles registered

   In the 34 years since the original adoption of the CDCA plan the population of CA has grown by 57.4 percent (2010 U.S. Census compared to 1980 U.S. Census).

   During the same time period the number of OHV registrations grew by 337.3 percent, from 235,003 to 1,027,612.

   These changes result in a greater demand for the limited space and resources found on the public lands.

3. Quality of inventories establishing route system

   The 1985 – 1987 designations did not result in a detailed inventory of all routes on the public lands. These designations were developed from a combination of sources including 15 & 7.5 minute USGS maps, aerial photography, and limited field visits.

   Hundreds of thousands of acres of land has been acquired (and disposed of) throughout the Planning area since the mid-1980's through acquisitions, donations, disposals, and exchanges, including through the West Mojave Land Tenure Project and other major landowner agreements.

   Authorizations approved under right-of-way, permit, and easement were documented in individual hard-copy project casefiles, and were not added to the

inventory and designated network if not already included in the 1985 – 1987 designations.

The 21 subregions identified in the 2003 WEMO Route Designation Project cover only about 1.3 million acres (55%) of the overall 2.35 million acres of Limited access public lands within the planning area. They were only developed for what was believed to be the more environmentally sensitive areas at the time.

Intensive field inventories were only completed for 10 of the 21 subregions identified in the planning area for the 2003 WEMO Route Designation Project. These efforts encompassed roughly 774,000 acres or 33% of the West Mojave Planning area and recorded about 4400 miles of routes.

In the end only eight of the ten inventoried subregions received a route system revision in 2003. Between 2003 and 2006 the Juniper subregion was inventoried, and its designations addressed in the 2006 WEMO Plan.

Therefore, at the end of the 2006 EIS planning effort, 698,000 acres representing approximately 35% of the WEMO Planning area had received a detailed inventory and updated route system.

4. Reproducible documentation supporting consideration of 43 CFR 8342.1 in the development of older route designation efforts

Due to the age of the original 1985-1987 route designation process, copies of all designation forms for all routes affected by that decision are not available.

Documentation is lacking or incomplete to show consideration of the Designation Criteria as outline in 43 CFR 8342.1 for the 2003 WEMO Route Designation Project per the court's ruling.

Areas outside of the 8 inventoried subregions of the 2003 WEMO Route Designation Project and the Juniper subregion did not have route-specific designation documentation. It is unknown what level of documentation exists to support the statement made in the 2003 Designation Project that the parts of the then existing network not included in the 2002 designation effort were reviewed to ensure compatibility with the WEMO conservation strategy and were in compliance with federal regulation

5. Compliance with new Travel Management policy and guidance

Route Designation for OHV use of the BLM administered lands has changed to keep pace with the current concept of Travel Management for the Public Lands. All forms of travel are now being considered in the designation process including Motorized,

Mechanized as well as Non-motorized; not just OHV use as it was in 2006 and before. Additionally, this concept change means that travel for all forms of public land users are now considered in the process including rights of way holders, mining claimants, grazing permittees, as well as casual recreational users.

Because of these concerns and the change in Travel Management policy, BLM decided that 100 percent of the inventory in the planning area would be reviewed, and that the entire area would be considered for new route designations during the 2015 WEMO SEIS process. One of the first steps to be undertaken to reach the final goal of a designated travel network was to develop a base inventory of what currently (2013) exists on the public lands.

The initial inventory was developed from multiple existing sources, and its accuracy and completeness varied depending upon the source. BLM then updated the inventory of linear features by reviewing existing features and tracing additional features from US Department of Agriculture's (USDA) one meter-resolution National Agriculture Imagery Program (NAIP) aerial photography into the Ground Transportation Linear Features (GTLF) geospatial database.

While the GIS staff were digitizing the route system into the GTLF geo-database system it was discovered that the 2001-2002 field survey was not as complete as first thought. This issue was confirmed when staff compared NAIP aerial photography from 2005 against 2012 for the same location within the Coolgardie subregion. This comparison showed that routes were well-established on the ground in 2005 but were not recorded during the GPS inventory process conducted at that time. Refer to Figures E-1 and E-2 for a sample of what was found within the Coolgardie subregion. Additionally Figures E-3 through Figures E-12 show a sampling of similar missing route situations found within the El Paso, Juniper Flats, Middle Knob, Rand, and Stoddard Valley subregions. Refer to Table E-1 for a comparison of the number of miles inventoried for the 2003 WEMO Route Designation Project compared to what was inventoried for the development of the GTLF geo-database.

Because of the change in policy directing the consideration and incorporation of all transportation features no matter their purpose (authorized, permitted, or casual use) or mode of travel on them (motorized, non-motorized, non-mechanized) into the travel management strategy for an area, the route networks overall mileage will increase from that considered and approved as part of the 2006 WEMO EIS. Routes authorized by permit, right-of-way or easement undergo site-specific review, and, if approved within the last 30 years, would have considered the minimization criteria, Since the ROD for the 2006 WEMO Plan, about 250 miles of authorized and permitted routes have been added so far into the system, the majority of which existed prior to 2005. These routes continue to be added, and a complete review of case files will not be completed until the FEIS.

Finally, because the WEMO SEIS is going to review and update 100% of the planning area versus 30% that was completed in 2006, it is expected that the overall mileage of the route

system will increase. When the BLM conducted its inventory in 2001-2002, there were 4,400 miles of routes in the ten inventoried subregions that encompassed 33% of the 2.35 million acres in the Limited access portion of the planning area. With the development of the new inventory for the planning area approximately 15,000 miles of transportation linear features across the 2.35 million acres of Limited access public lands were identified. These 15,000 miles represent all forms of transportation features on the public lands for both casual use along with permitted uses such as rights-of-ways. Within the 10 subregions inventoried in 2001-2002, the more precise GTLF effort found that the inventory increased by nearly 41 percent from about 4,400 miles in 2001-2002 to 6,200 miles in 2013 within those subregions. Some oversights had been anticipated, and had been pointed out by the public and staff, particularly in identifying additional permitted routes and during the BLM 2012 route signing and monitoring efforts. It was unclear to what extent these were widespread or isolated issues with the inventory, or the result of non-compliance. BLM conducted sample surveys and based on these surveys, it is believed that most of the additional routes identified in the 2013 inventory existed in 2001-2002, but were not identified in the surveys at that time (see Figures E-1 through E-12).

For a detailed description of the process being used to develop the transportation network alternatives for consideration in the 2015 SEIS refer to Chapter 2, Section 2.1.4.

Table E-1 shows the WEMO 2003/2006 Subregions with the mileages as reported in Table 2-7, Page 28 of the 2003 WEMO Designation Project compared to what is found in the 2015 SEIS GTLF geo-database. Because the boundaries of the 2003/2006 subregions do not correspond with current subregion boundaries, these numbers do not translate into the number of miles within the WMRNP subregions analyzed in this EIS.

Table E-1: Comparison of 2001 Inventory to 2015 GTLF Inventory

2003 Subregions	Acres of BLM Lands	2001 Total Miles Inventoried On BLM Lands	2015 Total Miles GTLF Inventory On BLM Lands
AMBOY	31469		
BIGHORN	69750		
COYOTE	103661	411	571
EL MIRAGE	30778	267	287
EL PASO	76961	465	718
FREMONT	126522	582	746
GRANITE	46195		
JUNIPER	22368	164[1]	
KRAMER	83312	642	733
MIDDLE KNOB	36151	91	309
MORONGO	11042		
NEWBERRY-RODMAN	59717	210	293
NORTH SEARLES	49633		
ORD	122565	549[2]	701
PINTO	105121		
RED MOUNTAIN	119152	733	690
RIDGECREST	20918	328	458
SIERRA	32346		
SLEEPING BEAUTY	29004		
SOUTH SEARLES	23192		
SUPERIOR	116612	668	769

[1] Juniper mileage is for the post-2002 inventory conducted prior to the 2006 WEMO Plan DEIS

[2] Ord mileage is for the Ord Pilot Project

APPENDIX E FIGURES

This attachment to Appendix E displays some comparative NAIP photographs of the routes in the inventory in 2005 and 2012. The photographs were used to compare the on the ground changes since 2005, and also the digitizing accuracy for the 2006 WEMO Plan and the current WMRNP inventory completed in 2013. The aerial photography displays what was actually on the ground at the time of each flight, and the routes captured. New routes added to the inventory are indicated on the 2012 figures with dashed lines.

For example, Figure E-1 and Figure E-2 are photographs of the same area in the Coolgardie Subregion flown in 2005 then again in 2012. Note that the dashed white lines on the 2012 figure show all the routes on public lands that were added to the inventory in 2013 for the current planning effort. Some red routes identified as closed in the 2006 WEMO Plan are not included in the 2013 inventory as closed routes because they were not found in either year's aerial photos, or else are substantially misaligned and have been captured as new routes.

The remaining NAIP Imagery Photographs are:

Figure E - 3: El Paso Subregion 2005

Figure E - 4: El Paso Subregion 2012

Figure E – 5: Juniper Flats Subregion 2005

Figure E – 6: Juniper Flats Subregion 2012

Figure E – 7: Middle Knob Subregion 2005

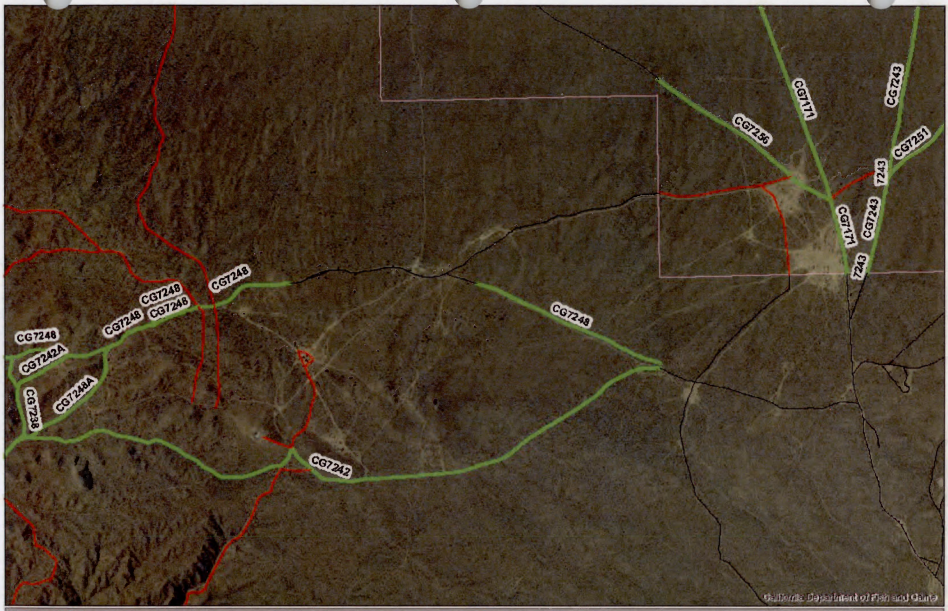
Figure E – 8: Middle Knob Subregion 2012

Figure E – 9: Rands Subregion 2005

Figure E – 10: Rands Subregion 2012

Figure E – 11: Stoddard Valley Subregion 2005

Figure E – 12: Stoddard Valley Subregion 2012



USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY
Lane Mtn Milkvetch/Desert Tortoise within the Coolgardie Mesa ACEC
Coolgardie Subregion

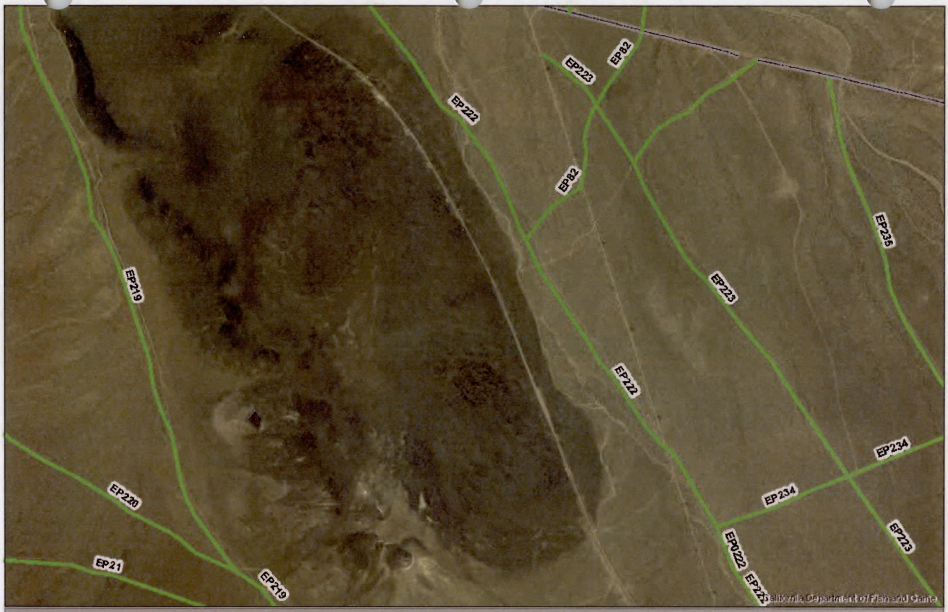
Figure E - 1
2006 Wemo Route Designation
2005 NAIP IMAGERY

1:15,000

USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY
Lane Mtn Milkvetch/Desert Tortoise within the Coolgardie Mesa ACEC
Coolgardie Subregion

Figure E - 2
2013 - 2014 GTLF Route Designation
2012 NAIP IMAGERY

1:15,000



USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY
El Paso Subregion

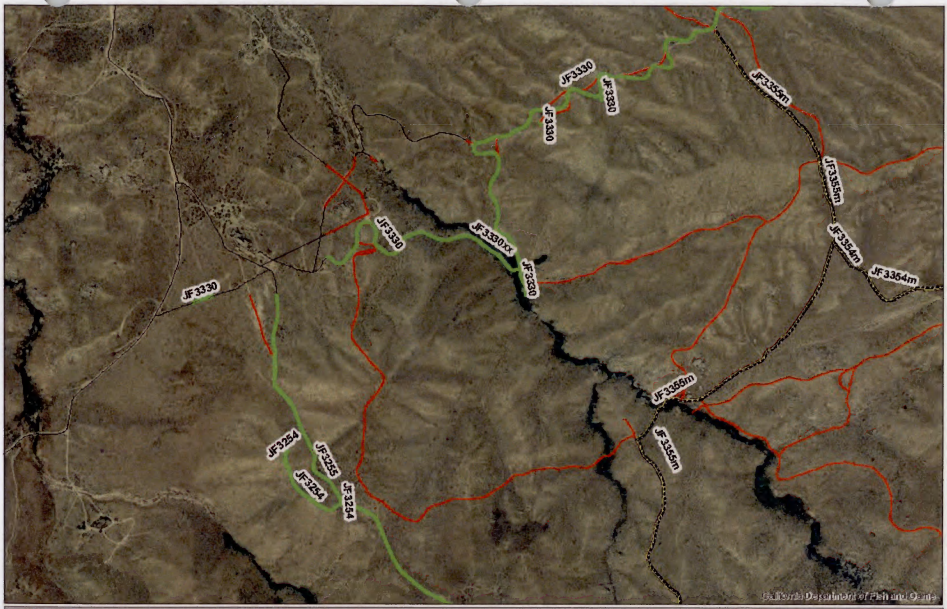
Figure E - 3
2006 Wemo Route Designation
2005 NAIP IMAGERY

1:15,000

USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY
El Paso Subregion

Figure E - 4
2013 - 2014 GTLF Route Designation
2012 NAIP IMAGERY

1:15,000



USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY

Juniper Flats Arrastre Canyon & Coxey Road
Juniper Flats Subregion

Figure E - 5
2006 Werno Route Designation
2005 NAIP IMAGERY

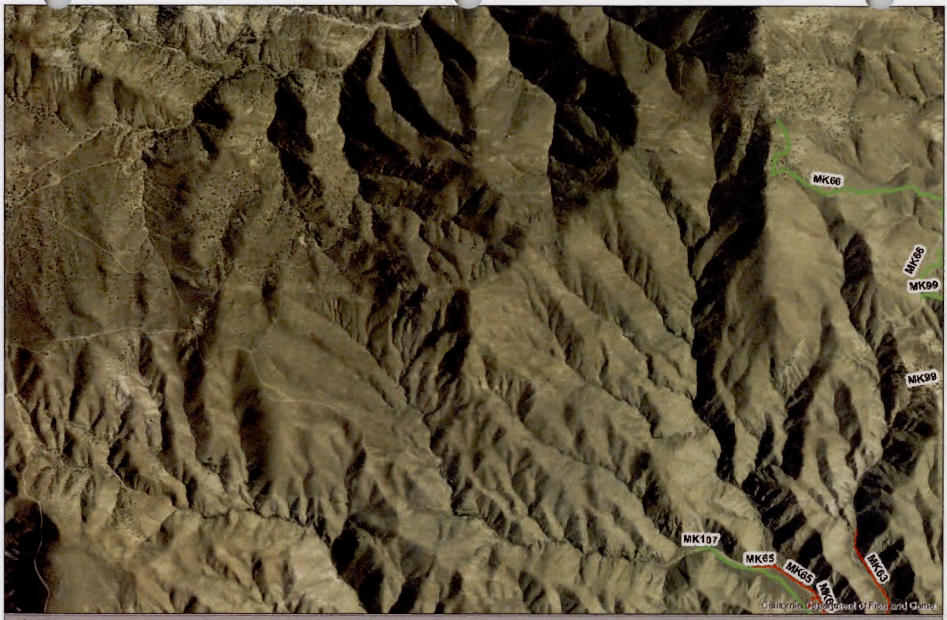
1:10,000

USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY

Juniper Flats Arrastre Canyon & Coxey Road
Juniper Flats Subregion

Figure E - 6
2013 - 2014 GTLF Route Designation
2012 NAIP IMAGERY

1:10,000



USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY
Antimony Flat Area
Middle Knob Subregion

Figure E - 7
2006 Wemo Route Designation
2005 NAIP IMAGERY

1:15,000

Legend

- Open
- Closed
- Limited
- NonBLM
- Unk

USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY
Antimony Flat Area
Middle Knob Subregion

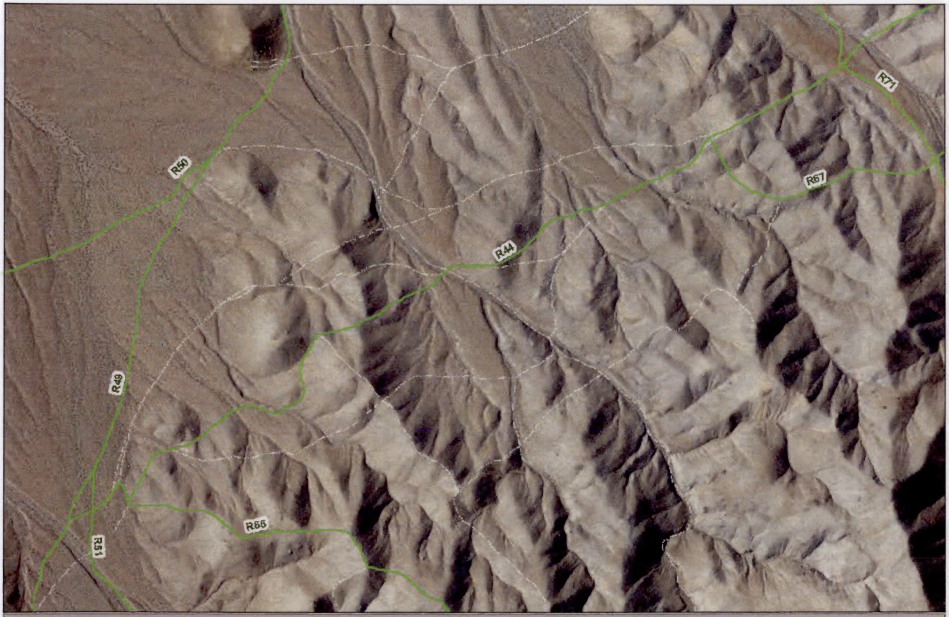
Figure E - 8
2013 - 2014 GTLF Route Designation
2012 NAIP IMAGERY

1:15,000

USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY
Rand Mountains
Rands Subregion

Figure E - 9
2006 Wemo Route Designation
2005 NAIP IMAGERY

1: 10,000



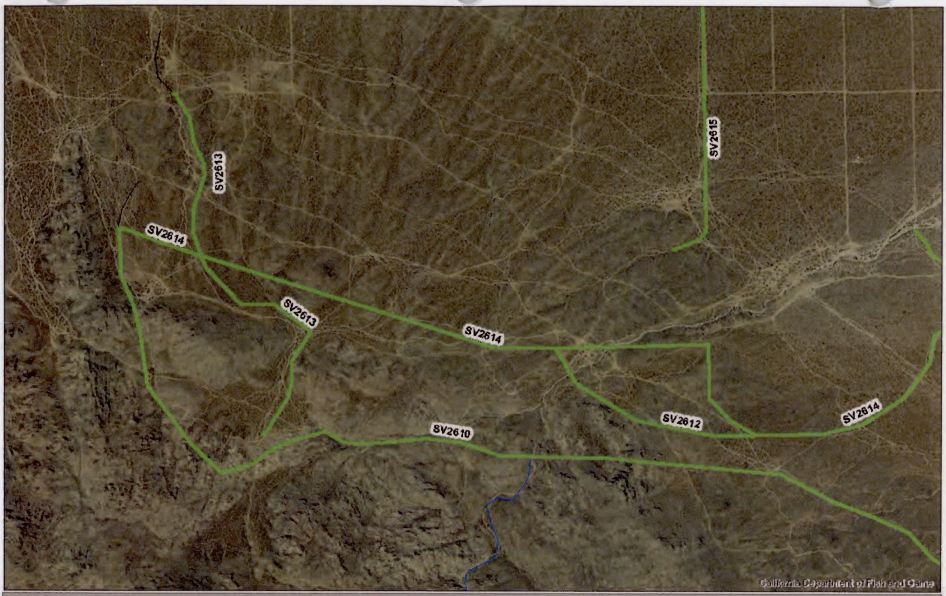
Legend

- Open
- Closed
- Limited
- NonBLM
- Unk

USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY
Rand Mountains
Rands Subregion

Figure E - 10
2013 - 2014 GTLF Route Designation
2012 NAIP IMAGERY

1:10,000



USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY
Granite Area
Stoddard Valley Subregion

Figure E - 11
2006 Wemo Route Designation
2005 NAIP IMAGERY

1:10,000

Legend

- Open
- Closed
- Limited
- NonBLM
- Unk

USE OF NAIP IMAGERY IN THE WEST MOJAVE ROUTE INVENTORY
Granite Area
Stoddard Valley Subregion

Figure E - 12
2013 - 2014 GTLF Route Designation 1:10,000
2012 NAIP IMAGERY

APPENDIX F

CONSULTATION INFORMATION

APPENDIX F-1

TRIBAL CONSULTATION

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
1600/8340 (P)
CAD080.32

NOV 0 9 2011

CERTIFIED MAIL NO 7009 1410 0001 4383 0885
RETURN RECEIPT REQUESTED

The Honorable Timothy Williams
Chairman
Fort Mojave Indian Tribe
500 Merriman Avenue
Needles, CA 92363

Dear Chairman Williams:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Fort Mojave Indian Tribe into government-to-government consultation.

A Record of Decision for The West Mojave Plan (WEMO), a federal land use plan amendment to the California Desert Conservation Area (CDCA) plan of 1980, was signed in March 2006. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers 9.3 million acres in the western portion of the Mojave Desert in southern California covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties: 3.3 million acres of public lands administered by BLM, 3.0 million acres of private lands, 102,000 acres administered by the State of California, and the balance of military lands administered by the Department of Defense. The Plan presents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part.

The Western Mojave Desert Off-Road Vehicle Designation Project (2003), as modified and adopted in the WEMO Plan, identified a network of motorized vehicle routes on public lands. The network provides access to nearly 3 million acres of public lands within the western Mojave Desert. Travel Management Plans are sub-region specific activity plans which include route designations for adjacent areas with similar issues, and associated signing, monitoring, and enforcement strategies. The BLM is undertaking a planning effort to reevaluate the off-highway vehicle route designations throughout the WEMO Plan area.

We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

With this letter we respectfully request your assistance in identifying who the Tribal government has officially authorized to serve as the representative spokesperson(s) in matters relating to the BLM and Government-to-Government consultation. In addition, please let us know if there are traditional cultural or religious leaders and practitioners whom the Tribe has designated to serve as contacts for the BLM for notification and consultation. Finally, when we send out notification letters about our projects and invitations to consult, we are requesting your direct participation and input into the decision making process. Government-to-Government consultation has occurred in tribal chambers, at the BLM Office, in the field, or other locations identified as appropriate by the respective Tribe. Please identify where you would prefer Government-to-Government consultation to take place so that we can plan for future meetings.

Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Fort Mojave Indian Tribe.

Sincerely,

Teresa A Raml

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
1600/8340 (P)
CAD080.32

NOV 0 9 2011

CERTIFIED MAIL NO 7009 1410 0001 4383 0878
RETURN RECEIPT REQUESTED

The Honorable Charles Wood
Chairman
Chemehuevi Reservation
P.O. Box 1976
Havasu Lake, CA 92363

Dear Chairman Wood:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Chemehuevi Reservation into government-to-government consultation.

A Record of Decision for The West Mojave Plan (WEMO), a federal land use plan amendment to the California Desert Conservation Area (CDCA) plan of 1980, was signed in March 2006. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers 9.3 million acres in the western portion of the Mojave Desert in southern California covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties: 3.3 million acres of public lands administered by BLM, 3.0 million acres of private lands, 102,000 acres administered by the State of California, and the balance of military lands administered by the Department of Defense. The Plan presents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part.

The Western Mojave Desert Off-Road Vehicle Designation Project (2003), as modified and adopted in the WEMO Plan, identified a network of motorized vehicle routes on public lands. The network provides access to nearly 3 million acres of public lands within the western Mojave Desert. Travel Management Plans are sub-region specific activity plans which include route designations for adjacent areas with similar issues, and associated signing, monitoring, and enforcement strategies. The BLM is undertaking a planning effort to reevaluate the off-highway vehicle route designations throughout the WEMO Plan area.

We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

With this letter we respectfully request your assistance in identifying who the Tribal government has officially authorized to serve as the representative spokesperson(s) in matters relating to the BLM and Government-to-Government consultation. In addition, please let us know if there are traditional cultural or religious leaders and practitioners whom the Tribe has designated to serve as contacts for the BLM for notification and consultation. Finally, when we send out notification letters about our projects and invitations to consult, we are requesting your direct participation and input into the decision making process. Government-to-Government consultation has occurred in tribal chambers, at the BLM Office, in the field, or other locations identified as appropriate by the respective Tribe. Please identify where you would prefer Government-to-Government consultation to take place so that we can plan for future meetings.

Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Chemehuevi Reservation.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
1600/8340 (P)
CAD080.32

NOV 0 9 2011

CERTIFIED MAIL NO 7009 1410 0001 4383 0892
RETURN RECEIPT REQUESTED

The Honorable Robert J. Salgado, Sr.
Chairman
Soboba Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346

Dear Chairman Salgado:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Soboba Band of Mission Indians into government-to-government consultation.

A Record of Decision for The West Mojave Plan (WEMO), a federal land use plan amendment to the California Desert Conservation Area (CDCA) plan of 1980, was signed in March 2006. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers 9.3 million acres in the western portion of the Mojave Desert in southern California covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties: 3.3 million acres of public lands administered by BLM, 3.0 million acres of private lands, 102,000 acres administered by the State of California, and the balance of military lands administered by the Department of Defense. The Plan presents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part.

The Western Mojave Desert Off-Road Vehicle Designation Project (2003), as modified and adopted in the WEMO Plan, identified a network of motorized vehicle routes on public lands. The network provides access to nearly 3 million acres of public lands within the western Mojave Desert. Travel Management Plans are sub-region specific activity plans which include route designations for adjacent areas with similar issues, and associated signing, monitoring, and enforcement strategies. The BLM is undertaking a planning effort to reevaluate the off-highway vehicle route designations throughout the WEMO Plan area.

We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

With this letter we respectfully request your assistance in identifying who the Tribal government has officially authorized to serve as the representative spokesperson(s) in matters relating to the BLM and Government-to-Government consultation. In addition, please let us know if there are traditional cultural or religious leaders and practitioners whom the Tribe has designated to serve as contacts for the BLM for notification and consultation. Finally, when we send out notification letters about our projects and invitations to consult, we are requesting your direct participation and input into the decision making process. Government-to-Government consultation has occurred in tribal chambers, at the BLM Office, in the field, or other locations identified as appropriate by the respective Tribe. Please identify where you would prefer Government-to-Government consultation to take place so that we can plan for future meetings.

Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Soboba Band of Mission Indians.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
1600/8340 (P)
CAD080.32

NOV 0 9 2011

CERTIFIED MAIL NO 7009 1410 0001 4383 0915
RETURN RECEIPT REQUESTED

The Honorable James Ramos
Chairman
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346

Dear Chairman Ramos:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the San Manuel Band of Mission Indians into government-to-government consultation.

A Record of Decision for The West Mojave Plan (WEMO), a federal land use plan amendment to the California Desert Conservation Area (CDCA) plan of 1980, was signed in March 2006. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers 9.3 million acres in the western portion of the Mojave Desert in southern California covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties: 3.3 million acres of public lands administered by BLM, 3.0 million acres of private lands, 102,000 acres administered by the State of California, and the balance of military lands administered by the Department of Defense. The Plan presents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part.

The Western Mojave Desert Off-Road Vehicle Designation Project (2003), as modified and adopted in the WEMO Plan, identified a network of motorized vehicle routes on public lands. The network provides access to nearly 3 million acres of public lands within the western Mojave Desert. Travel Management Plans are sub-region specific activity plans which include route designations for adjacent areas with similar issues, and associated signing, monitoring, and enforcement strategies. The BLM is undertaking a planning effort to reevaluate the off-highway vehicle route designations throughout the WEMO Plan area.

We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

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Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the San Manuel Band of Mission Indians.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
1600/8340 (P)
CAD080.32

NOV 0 9 2011

CERTIFIED MAIL NO 7009 1410 0001 4383 0922
RETURN RECEIPT REQUESTED

The Honorable Isreal Naylor
Chairman
Fort Independence Band of Paiute Indians
P.O. Box 67
Independence, CA 93526

Dear Chairman Naylor:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Fort Independence Band of Paiute Indians government consultation.

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The Western Mojave Desert Off-Road Vehicle Designation Project (2003), as modified and adopted in the WEMO Plan, identified a network of motorized vehicle routes on public lands. The network provides access to nearly 3 million acres of public lands within the western Mojave Desert. Travel Management Plans are sub-region specific activity plans which include route designations for adjacent areas with similar issues, and associated signing, monitoring, and enforcement strategies. The BLM is undertaking a planning effort to reevaluate the off-highway vehicle route designations throughout the WEMO Plan area.

We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

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Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Fort Independence Band of Paiute Indians.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
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CAD080.32

NOV 0 9 2011

CERTIFIED MAIL NO 7009 1410 0001 4383 0939
RETURN RECEIPT REQUESTED

The Honorable Virgil Moose
Chairman
Big Pine Paiute Tribe of the Owens Valley
P.O. Box 700
Big Pine, CA 93513

Dear Chairman Moose:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Big Pine Paiute Tribe of the Owens Valley into government-to-government consultation.

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The Western Mojave Desert Off-Road Vehicle Designation Project (2003), as modified and adopted in the WEMO Plan, identified a network of motorized vehicle routes on public lands. The network provides access to nearly 3 million acres of public lands within the western Mojave Desert. Travel Management Plans are sub-region specific activity plans which include route designations for adjacent areas with similar issues, and associated signing, monitoring, and enforcement strategies. The BLM is undertaking a planning effort to reevaluate the off-highway vehicle route designations throughout the WEMO Plan area.

We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

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Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Big Pine Paiute Tribe of the Owens Valley.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
1600/8340 (P)
CAD080.32

NOV 0 9 2011

CERTIFIED MAIL NO 7009 1410 0001 4383 0861
RETURN RECEIPT REQUESTED

The Honorable Richard Milanovich
Chairman
Agua Caliente Band of Cahuilla Indians
5401 Dinah Shore Drive
Palm Springs, CA 92264

Dear Chairman Milanovich:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Agua Caliente Band of Cahuilla Indians into government-to-government consultation.

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The Western Mojave Desert Off-Road Vehicle Designation Project (2003), as modified and adopted in the WEMO Plan, identified a network of motorized vehicle routes on public lands. The network provides access to nearly 3 million acres of public lands within the western Mojave Desert. Travel Management Plans are sub-region specific activity plans which include route designations for adjacent areas with similar issues, and associated signing, monitoring, and enforcement strategies. The BLM is undertaking a planning effort to reevaluate the off-highway vehicle route designations throughout the WEMO Plan area.

We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

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Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Agua Caliente Band of Cahuilla Indians.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
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CAD080.32

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CERTIFIED MAIL NO 7009 1410 0001 4383 0946
RETURN RECEIPT REQUESTED

The Honorable Darrell Mike
Chairman
Twenty-Nine Palms Band of Mission Indians
46-200 Harrison Place
Coachella, CA 92236

Dear Chairman Mike:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Twenty-Nine Palms Band of Mission Indians into government-to-government consultation.

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The Western Mojave Desert Off-Road Vehicle Designation Project (2003), as modified and adopted in the WEMO Plan, identified a network of motorized vehicle routes on public lands. The network provides access to nearly 3 million acres of public lands within the western Mojave Desert. Travel Management Plans are sub-region specific activity plans which include route designations for adjacent areas with similar issues, and associated signing, monitoring, and enforcement strategies. The BLM is undertaking a planning effort to reevaluate the off-highway vehicle route designations throughout the WEMO Plan area.

We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

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Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Twenty-Nine Palms Band of Mission Indians.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

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CAD080.32

NOV 0 9 2011

CERTIFIED MAIL NO 7009 1410 0001 4383 0953
RETURN RECEIPT REQUESTED

The Honorable Robert Martin
Chairman
Morongo Band of Mission Indians
12700 Pumarra Road
Banning, CA 92220

Dear Chairman Martin:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Morongo Band of Mission Indians into government-to-government consultation.

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We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

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Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Morongo Band of Mission Indians.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
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CAD080.32

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CERTIFIED MAIL NO 7009 1410 0001 4383 0960
RETURN RECEIPT REQUESTED

The Honorable Melvin R. Joseph
Chairman
Lone Pine Paiute-Shoshone Tribe
P.O. Box 747
Lone Pine, CA 93545

Dear Chairman Joseph:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Lone Pine Paiute-Shoshone Tribe into government-to-government consultation.

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We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

With this letter we respectfully request your assistance in identifying who the Tribal government has officially authorized to serve as the representative spokesperson(s) in matters relating to the BLM and Government-to-Government consultation. In addition, please let us know if there are traditional cultural or religious leaders and practitioners whom the Tribe has designated to serve as contacts for the BLM for notification and consultation. Finally, when we send out notification letters about our projects and invitations to consult, we are requesting your direct participation and input into the decision making process. Government-to-Government consultation has occurred in tribal chambers, at the BLM Office, in the field, or other locations identified as appropriate by the respective Tribe. Please identify where you would prefer Government-to-Government consultation to take place so that we can plan for future meetings.

Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Lone Pine Paiute-Shoshone Tribe.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
1600/8340 (P)
CAD080.32

NOV 0 9 2011

CERTIFIED MAIL NO 7009 1410 0001 4383 0991
RETURN RECEIPT REQUESTED

The Honorable George Gholson
Chairman
Timbi-sha Shoshone Tribe
1349 Rocking W Drive
Bishop, CA 93514

Dear Chairman Gholson:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Timbi-sha Shoshone Tribe into government-to-government consultation.

A Record of Decision for The West Mojave Plan (WEMO), a federal land use plan amendment to the California Desert Conservation Area (CDCA) plan of 1980, was signed in March 2006. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers 9.3 million acres in the western portion of the Mojave Desert in southern California covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties: 3.3 million acres of public lands administered by BLM, 3.0 million acres of private lands, 102,000 acres administered by the State of California, and the balance of military lands administered by the Department of Defense. The Plan presents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part.

The Western Mojave Desert Off-Road Vehicle Designation Project (2003), as modified and adopted in the WEMO Plan, identified a network of motorized vehicle routes on public lands. The network provides access to nearly 3 million acres of public lands within the western Mojave Desert. Travel Management Plans are sub-region specific activity plans which include route designations for adjacent areas with similar issues, and associated signing, monitoring, and enforcement strategies. The BLM is undertaking a planning effort to reevaluate the off-highway vehicle route designations throughout the WEMO Plan area.

We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

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Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Timbi-sha Shoshone Tribe.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
1600/8340 (P)
CAD080.32

NOV 0 9 2011

CERTIFIED MAIL NO 7009 1410 0001 4383 0731
RETURN RECEIPT REQUESTED

The Honorable Eldred Enas
Chairman
Colorado River Indian Tribes
26600 Mohave Road
Parker, AZ 85344

Dear Chairman Enas:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Colorado River Indian Tribes into government-to-government consultation.

A Record of Decision for The West Mojave Plan (WEMO), a federal land use plan amendment to the California Desert Conservation Area (CDCA) plan of 1980, was signed in March 2006. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers 9.3 million acres in the western portion of the Mojave Desert in southern California covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties: 3.3 million acres of public lands administered by BLM, 3.0 million acres of private lands, 102,000 acres administered by the State of California, and the balance of military lands administered by the Department of Defense. The Plan presents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part.

The Western Mojave Desert Off-Road Vehicle Designation Project (2003), as modified and adopted in the WEMO Plan, identified a network of motorized vehicle routes on public lands. The network provides access to nearly 3 million acres of public lands within the western Mojave Desert. Travel Management Plans are sub-region specific activity plans which include route designations for adjacent areas with similar issues, and associated signing, monitoring, and enforcement strategies. The BLM is undertaking a planning effort to reevaluate the off-highway vehicle route designations throughout the WEMO Plan area.

We would appreciate your help in identifying any issues or concerns including identifying sacred sites and places of traditional religious and cultural significance which might be affected. If the Tribe believes the WEMO plan area lies outside your area of interest, and you do not wish to consult or be contacted in the near future, the BLM would greatly appreciate your notice accordingly.

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Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Colorado River Indian Tribes.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
1600/8340 (P)
CAD080.32

NOV 0 9 2011

CERTIFIED MAIL NO 7009 1410 0001 4383 0977
RETURN RECEIPT REQUESTED

The Honorable Dale Delgado
Chairman
Bishop Paiute Tribe
50 Tu Su Lane
Bishop, CA 993514

Dear Chairman Delgado:

On September 13, 2011, the Bureau of Land Management (BLM) published a Notice of Intent announcing the preparation of a supplemental environmental document to analyze a proposed plan amendment and alternatives covering the management of motorized vehicles on public lands in the West Mojave area. In appreciation of tribal resources and heritage, the BLM would like to invite the Bishop Paiute Tribe into government-to-government consultation.

A Record of Decision for The West Mojave Plan (WEMO), a federal land use plan amendment to the California Desert Conservation Area (CDCA) plan of 1980, was signed in March 2006. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers 9.3 million acres in the western portion of the Mojave Desert in southern California covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties: 3.3 million acres of public lands administered by BLM, 3.0 million acres of private lands, 102,000 acres administered by the State of California, and the balance of military lands administered by the Department of Defense. The Plan presents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part.

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Our tribal point of contact for this project is Jim Shearer, Barstow Field Office Archaeologist. He can be reached by email at: jshearer@blm.gov and by phone (760) 252-6034. We look forward to the opportunity to work effectively with the Bishop Paiute Tribe.

Sincerely,

Teresa A. Raml
District Manager

Enclosure: (1)
Project Maps on CD
hard copies available on request

Cc:
Roxie Trost
Barstow Field Manager
Jack Hamby
Ridgecrest Field Manager, acting

AGUA CALIENTE BAND OF CAHUILLA INDIANS

TRIBAL HISTORIC PRESERVATION

December 19, 2011

Jim Shearer
Bureau of Land Management
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553

RE: Record of Management of Motorized vehicles on Public Lands in the West Mojave Area, CA

To Whom It May Concern:

The Agua Caliente Band of Cahuilla Indians appreciates your efforts to include the Agua Caliente Tribal Historic Preservation Office in your project. The project area is beyond the Agua Caliente Indian Reservation lands and our Traditional Use Area. We currently have no concerns regarding this project. This letter shall conclude our consultation efforts.

Again, we appreciate your interest in our tribal resources and heritage. If you have questions or require additional information, please do not hesitate to call me at (760) 699-6907. You may also email me at ptuck@aguacaliente-nsn.gov .

Cordially,

Patricia A. Garcia-Tuck
Tribal Historic Preservation Office
AGUA CALIENTE BAND
OF CAHUILLA INDIANS

C: Agua Caliente Cultural Register

X:\CONSULTATIONS Letters\FY 2012\Off Reservation\ BLM_WestMojavePlan _12_19_11.docx

5401 DINAH SHORE DRIVE, PALM SPRINGS, CA 92264
T 760/699/6800 F 760/699/6924 WWW.AGUACALIENTE-NSN.GOV

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2182
RETURN RECEIPT REQUESTED

Mr. Edward Smith, Chairman
Chemehuevi Reservation
P.O. Box 1976
Havasu Lake, CA 92363

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairman Smith:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

On September 13, 2011, the BLM published a Notice of Intent announcing the preparation of the Supplemental WEMO Plan. A Record of Decision for the WEMO Plan, a federal land use plan amendment to the California Desert Conservation Area plan of 1980, was signed in March 2006. The 2006 WEMO Plan represents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part, as well as the transportation network within those public lands. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers over 9.3 million acres in the western portion of the Mojave Desert covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties. The plan applies to the 3.3 million acres of public lands. The transportation component to the WEMO Plan identified a network of approximately 5,000 miles of motorized vehicle routes on public lands. The network provides access to the public lands within the western Mojave Desert, considering adjacent jurisdiction and land-owner travel patterns.

Since initiating tribal consultation in 2011, the BLM has been reevaluating the transportation and related component of the WEMO Plan, including the specific off-highway vehicle route and non-motorized trail designations on public lands throughout the West Mojave Planning area. The BLM has developed proposed objectives for the reanalyzed network, completed mapping routes of travel using Geographic

Information Systems technology, and developed a program to capture important information about each route or trail that will be used to determine the final route network. This program assists with the identification of specific route uses, resources issues, and any additional data that may be pertinent to future management actions.

Travel Management Plans will also be developed to implement the transportation network. These travel plans are specific to sub-areas and each covers a different portion of the West Mojave, with shared or similar characteristics (Figure 1). Each travel management plan includes specific route and trail designations, the signing, monitoring, and enforcement strategies, priorities for improvements, and rehabilitation priorities and strategies for routes and trails within that part of the West Mojave transportation network.

The upcoming tribal workshops will serve as a critical component to inform the planning process. All three workshops will have two sessions from 2-4 pm and 6-8 pm at the following locations:

January 21, 2014 – BLM Ridgecrest Field Office
300 S. Richmond Rd.
Ridgecrest, CA 93555

January 23, 2014 – BLM Bishop Field Office
351 Pacu Lane, Suite 100
Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Chemehuevi. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2199
RETURN RECEIPT REQUESTED

Mr. George Gholson, Chairperson
Timbi-sha Shoshone Tribe
PO Box 1779
621 West Line St.
Bishop, CA 93514

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairperson Gholson:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

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Since initiating tribal consultation in 2011, the BLM has been reevaluating the transportation and related component of the WEMO Plan, including the specific off-highway vehicle route and non-motorized trail designations on public lands throughout the West Mojave Planning area. The BLM has developed proposed objectives for the reanalyzed network, completed mapping routes of travel using Geographic

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January 23, 2014 – BLM Bishop Field Office
351 Pacu Lane, Suite 100
Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Timbi-sha Shoshone. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

cc:
Bill Eddy, Timbi-sha Shoshone Vice Chairman
Clyde Nichols, Timbi-sha Shoshone Council Member
Earl Frank, Timbi-sha Council Member
Margaret Cortez, Timbi-sha Secretary-Treasurer
Barbara Durham, Tribal Historic Preservation Officer

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2137
RETURN RECEIPT REQUESTED

Mr. Dale Delgado, Chairman
Bishop Paiute Tribe
50 Tu Su Lane
Bishop, CA 93514

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairman Delgado:

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Ridgecrest, CA 93555

January 23, 2014 – BLM Bishop Field Office
351 Pacu Lane, Suite 100
Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Bishop Paiute. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A Raml

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

cc:
Raymond Andrews, Bishop Paiute Tribal Historic Preservation Officer

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2175
RETURN RECEIPT REQUESTED

Ms. Mary Wuester, Chairperson
Lone Pine Paiute-Shoshone Tribe
P.O. Box 747
Lone Pine, 93545

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairperson Wuester:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

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Since initiating tribal consultation in 2011, the BLM has been reevaluating the transportation and related component of the WEMO Plan, including the specific off-highway vehicle route and non-motorized trail designations on public lands throughout the West Mojave Planning area. The BLM has developed proposed objectives for the reanalyzed network, completed mapping routes of travel using Geographic

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Ridgecrest, CA 93555

January 23, 2014 – BLM Bishop Field Office
351 Pacu Lane, Suite 100
Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Lone Pine Paiute-Shoshone. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

cc:
Kathy Bancroft, Lone Pine Paiute-Shoshone Tribal Historic Preservation Officer

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2120
RETURN RECEIPT REQUESTED

Mr. Robert Martin, Chairman
Morongo Band of Mission Indians
12700 Pumarra Rd.
Banning, CA 92220

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairman Martin:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

On September 13, 2011, the BLM published a Notice of Intent announcing the preparation of the Supplemental WEMO Plan. A Record of Decision for the WEMO Plan, a federal land use plan amendment to the California Desert Conservation Area plan of 1980, was signed in March 2006. The 2006 WEMO Plan represents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part, as well as the transportation network within those public lands. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers over 9.3 million acres in the western portion of the Mojave Desert covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties. The plan applies to the 3.3 million acres of public lands. The transportation component to the WEMO Plan identified a network of approximately 5,000 miles of motorized vehicle routes on public lands. The network provides access to the public lands within the western Mojave Desert, considering adjacent jurisdiction and land-owner travel patterns.

Since initiating tribal consultation in 2011, the BLM has been reevaluating the transportation and related component of the WEMO Plan, including the specific off-highway vehicle route and non-motorized trail designations on public lands throughout the West Mojave Planning area. The BLM has developed proposed objectives for the reanalyzed network, completed mapping routes of travel using Geographic Information Systems technology, and developed a program to capture important information about each

route or trail that will be used to determine the final route network. This program assists with the identification of specific route uses, resources issues, and any additional data that may be pertinent to future management actions.

Travel Management Plans will also be developed to implement the transportation network. These travel plans are specific to sub-areas and each covers a different portion of the West Mojave, with shared or similar characteristics (Figure 1). Each travel management plan includes specific route and trail designations, the signing, monitoring, and enforcement strategies, priorities for improvements, and rehabilitation priorities and strategies for routes and trails within that part of the West Mojave transportation network.

The upcoming tribal workshops will serve as a critical component to inform the planning process. All three workshops will have two sessions from 2-4 pm and 6-8 pm at the following locations:

January 21, 2014 – BLM Ridgecrest Field Office
300 S. Richmond Rd.
Ridgecrest, CA 93555

January 23, 2014 – BLM Bishop Field Office
351 Pacu Lane, Suite 100
Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Morongo. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
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www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2168
RETURN RECEIPT REQUESTED

Mr. Darrell Mike, Chairman
Twenty-Nine Palms Band of Mission Indians
46-200 Harrison Place
Coachella, CA 92236

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairman Mike:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

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Since initiating tribal consultation in 2011, the BLM has been reevaluating the transportation and related component of the WEMO Plan, including the specific off-highway vehicle route and non-motorized trail designations on public lands throughout the West Mojave Planning area. The BLM has developed proposed objectives for the reanalyzed network, completed mapping routes of travel using Geographic Information Systems technology, and developed a program to capture important information about each

route or trail that will be used to determine the final route network. This program assists with the identification of specific route uses, resources issues, and any additional data that may be pertinent to future management actions.

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January 23, 2014 – BLM Bishop Field Office
351 Pacu Lane, Suite 100
Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Twenty-Nine Palms. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2113
RETURN RECEIPT REQUESTED

Ms. Genevieve Jones, Chairperson
Big Pine Paiute Tribe of the Owens Valley
P.O. Box 700
Big Pine, CA 93513

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairperson Jones:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

On September 13, 2011, the BLM published a Notice of Intent announcing the preparation of the Supplemental WEMO Plan. A Record of Decision for the WEMO Plan, a federal land use plan amendment to the California Desert Conservation Area plan of 1980, was signed in March 2006. The 2006 WEMO Plan represents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part, as well as the transportation network within those public lands. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers over 9.3 million acres in the western portion of the Mojave Desert covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties. The plan applies to the 3.3 million acres of public lands. The transportation component to the WEMO Plan identified a network of approximately 5,000 miles of motorized vehicle routes on public lands. The network provides access to the public lands within the western Mojave Desert, considering adjacent jurisdiction and land-owner travel patterns.

Since initiating tribal consultation in 2011, the BLM has been reevaluating the transportation and related component of the WEMO Plan, including the specific off-highway vehicle route and non-motorized trail designations on public lands throughout the West Mojave Planning area. The BLM has developed proposed objectives for the reanalyzed network, completed mapping routes of travel using Geographic Information Systems technology, and developed a program to capture important information about each

route or trail that will be used to determine the final route network. This program assists with the identification of specific route uses, resources issues, and any additional data that may be pertinent to future management actions.

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Ridgecrest, CA 93555

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351 Pacu Lane, Suite 100
Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Big Pine Paiute. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

cc:
Bill Helmer, Big Pine Paiute Tribal Historic Preservation Officer

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2151
RETURN RECEIPT REQUESTED

Mr. Israel Naylor, Chairman
Fort Independence Band of Paiute Indians
P.O. Box 67
Independence, CA 93526

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairman Naylor:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

On September 13, 2011, the BLM published a Notice of Intent announcing the preparation of the Supplemental WEMO Plan. A Record of Decision for the WEMO Plan, a federal land use plan amendment to the California Desert Conservation Area plan of 1980, was signed in March 2006. The 2006 WEMO Plan represents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part, as well as the transportation network within those public lands. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers over 9.3 million acres in the western portion of the Mojave Desert covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties. The plan applies to the 3.3 million acres of public lands. The transportation component to the WEMO Plan identified a network of approximately 5.000 miles of motorized vehicle routes on public lands. The network provides access to the public lands within the western Mojave Desert, considering adjacent jurisdiction and land-owner travel patterns.

Since initiating tribal consultation in 2011, the BLM has been reevaluating the transportation and related component of the WEMO Plan, including the specific off-highway vehicle route and non-motorized trail designations on public lands throughout the West Mojave Planning area. The BLM has developed proposed objectives for the reanalyzed network, completed mapping routes of travel using Geographic

Information Systems technology, and developed a program to capture important information about each route or trail that will be used to determine the final route network. This program assists with the identification of specific route uses, resources issues, and any additional data that may be pertinent to future management actions.

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Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Fort Independence. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

cc:
Priscilla Naylor, Fort Independence Tribal Historic Preservation Officer

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2106
RETURN RECEIPT REQUESTED

Ms. Carla Rodriguez, Chairperson
San Manuel Band of Mission Indians
26569 Community Center Dr.
Highland, CA 92346

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairperson Rodriguez:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

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Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2144
RETURN RECEIPT REQUESTED

Ms. Rosemary Morillo, Chairperson
Soboba Band of Mission Indians
P.O. Box 487
San Jacinto, CA 92581

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairperson Morillo:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

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Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2090
RETURN RECEIPT REQUESTED

Mr. Timothy Williams, Chairman
Fort Mojave Indian Tribe
500 Merriman Ave.
Needles, CA 92363

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairman Williams:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

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2601 Barstow Road
Barstow, CA 92311

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Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2267
RETURN RECEIPT REQUESTED

Mr. Jeff Grubbe, Chairman
Agua Caliente Band of Cahuilla Indians
5401 Dinah Shore Dr.
Palm Springs, CA 92264

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairman Grubbe:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

On September 13, 2011, the BLM published a Notice of Intent announcing the preparation of the Supplemental WEMO Plan. A Record of Decision for the WEMO Plan, a federal land use plan amendment to the California Desert Conservation Area plan of 1980, was signed in March 2006. The 2006 WEMO Plan represents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part, as well as the transportation network within those public lands. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers over 9.3 million acres in the western portion of the Mojave Desert covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties. The plan applies to the 3.3 million acres of public lands. The transportation component to the WEMO Plan identified a network of approximately 5,000 miles of motorized vehicle routes on public lands. The network provides access to the public lands within the western Mojave Desert, considering adjacent jurisdiction and land-owner travel patterns.

Since initiating tribal consultation in 2011, the BLM has been reevaluating the transportation and related component of the WEMO Plan, including the specific off-highway vehicle route and non-motorized trail designations on public lands throughout the West Mojave Planning area. The BLM has developed proposed objectives for the reanalyzed network, completed mapping routes of travel using Geographic

Information Systems technology, and developed a program to capture important information about each route or trail that will be used to determine the final route network. This program assists with the identification of specific route uses, resources issues, and any additional data that may be pertinent to future management actions.

Travel Management Plans will also be developed to implement the transportation network. These travel plans are specific to sub-areas and each covers a different portion of the West Mojave, with shared or similar characteristics (Figure 1). Each travel management plan includes specific route and trail designations, the signing, monitoring, and enforcement strategies, priorities for improvements, and rehabilitation priorities and strategies for routes and trails within that part of the West Mojave transportation network.

The upcoming tribal workshops will serve as a critical component to inform the planning process. All three workshops will have two sessions from 2-4 pm and 6-8 pm at the following locations:

January 21, 2014 – BLM Ridgecrest Field Office
300 S. Richmond Rd.
Ridgecrest, CA 93555

January 23, 2014 – BLM Bishop Field Office
351 Pacu Lane, Suite 100
Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Agua Caliente. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

cc:
Patricia Garcia, Agua Caliente Tribal Historic Preservation Officer

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2243
RETURN RECEIPT REQUESTED

Mr. Wayne Patch, Sr., Chairperson
Colorado River Indian Tribes
26600 Mohave Rd.
Parker, AZ 85344

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairman Patch:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

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Since initiating tribal consultation in 2011, the BLM has been reevaluating the transportation and related component of the WEMO Plan, including the specific off-highway vehicle route and non-motorized trail designations on public lands throughout the West Mojave Planning area. The BLM has developed proposed objectives for the reanalyzed network, completed mapping routes of travel using Geographic

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Ridgecrest, CA 93555

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351 Pacu Lane, Suite 100
Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Colorado River Indian Tribes. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2250
RETURN RECEIPT REQUESTED

Mr. Robert Gomez, Chairperson
Tubatulabals of Kern Valley
P.O. Box 226
Lake Isabella, CA 93240

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairman Gomez:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

On September 13, 2011, the BLM published a Notice of Intent announcing the preparation of the Supplemental WEMO Plan. A Record of Decision for the WEMO Plan, a federal land use plan amendment to the California Desert Conservation Area plan of 1980, was signed in March 2006. The 2006 WEMO Plan represents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part, as well as the transportation network within those public lands. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers over 9.3 million acres in the western portion of the Mojave Desert covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties. The plan applies to the 3.3 million acres of public lands. The transportation component to the WEMO Plan identified a network of approximately 5,000 miles of motorized vehicle routes on public lands. The network provides access to the public lands within the western Mojave Desert, considering adjacent jurisdiction and land-owner travel patterns.

Since initiating tribal consultation in 2011, the BLM has been reevaluating the transportation and related component of the WEMO Plan, including the specific off-highway vehicle route and non-motorized trail designations on public lands throughout the West Mojave Planning area. The BLM has developed proposed objectives for the reanalyzed network, completed mapping routes of travel using Geographic

Information Systems technology, and developed a program to capture important information about each route or trail that will be used to determine the final route network. This program assists with the identification of specific route uses, resources issues, and any additional data that may be pertinent to future management actions.

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Ridgecrest, CA 93555

January 23, 2014 – BLM Bishop Field Office
351 Pacu Lane, Suite 100
Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Tubatulabals. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2236
RETURN RECEIPT REQUESTED

Ms. Patricia Malone Henry, Chairperson
Kern River Paiute Council, Nuui Cunni
P.O. Box 3984
Wofford Heights, CA 93285

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Chairperson Henry:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

On September 13, 2011, the BLM published a Notice of Intent announcing the preparation of the Supplemental WEMO Plan. A Record of Decision for the WEMO Plan, a federal land use plan amendment to the California Desert Conservation Area plan of 1980, was signed in March 2006. The 2006 WEMO Plan represents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals and the natural communities of which they are a part, as well as the transportation network within those public lands. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The planning area covers over 9.3 million acres in the western portion of the Mojave Desert covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties. The plan applies to the 3.3 million acres of public lands. The transportation component to the WEMO Plan identified a network of approximately 5,000 miles of motorized vehicle routes on public lands. The network provides access to the public lands within the western Mojave Desert, considering adjacent jurisdiction and land-owner travel patterns.

Since initiating tribal consultation in 2011, the BLM has been reevaluating the transportation and related component of the WEMO Plan, including the specific off-highway vehicle route and non-motorized trail designations on public lands throughout the West Mojave Planning area. The BLM has developed proposed objectives for the reanalyzed network, completed mapping routes of travel using Geographic

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January 23, 2014 – BLM Bishop Field Office
351 Pacu Lane, Suite 100
Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Kern River Paiute Council. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2229
RETURN RECEIPT REQUESTED

Ms. Carol Wermuth
Monache Intertribal Association
P.O. Box 168
Kernville, CA 93238

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Ms. Wermuth:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

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Bishop, CA 93514

January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Monache Intertribal Association. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2212
RETURN RECEIPT REQUESTED

Mr. Robert Robinson
Co-Chairperson and Tribal Historic Preservation Officer
Kern Valley Indian Council
P.O. Box 401
Weldon, CA 93283

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Mr. Robinson:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

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January 28, 2014 – BLM Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Kern Valley Indian Council. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.ca.blm.gov/cdd

In Reply Refer To:
8100 (P)
CAD013000

December 20, 2013

CERTIFIED MAIL NO 7011 3500 0002 7623 2205
RETURN RECEIPT REQUESTED

Ms. June Walker-Price, Co-Chairperson
Kern Valley Indian Council
P.O. Box 1010
Lake Isabella, CA 93240

Subject: Bureau of Land Management West Mojave Plan Tribal Workshops

Dear Ms. Walker-Price:

On November 9, 2011, the Bureau of Land Management (BLM) initiated tribal consultation on the Supplemental Western Mojave (WEMO) Plan. The BLM presented information to tribes about WEMO at various tribal meetings upon request. Tribes were provided with hard copies and CDs of the WEMO Plan area, route inventory, and current route network maps during the summer of 2013. The BLM will host tribal informational workshops in three different locations to seek input from tribes on cultural and other important resources. This letter serves as an invitation for tribal representatives to attend any of the workshops and meet with the BLM to discuss the Supplemental WEMO Plan and tribal interests.

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Ridgecrest, CA 93555

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Bishop, CA 93514

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2601 Barstow Road
Barstow, CA 92311

We look forward to continuing consultation and informational workshops with the Kern Valley Indian Council. You will be contacted in the next few weeks to confirm participation in the workshops. If you have any questions, please contact Jim Shearer, Barstow Field Office Archaeologist, by email at jshearer@blm.gov or by telephone at (760) 252-6034; or Ashley Blythe, Ridgecrest Field Office Archaeologist, by email at ablythe@blm.gov or by telephone at (760) 384-5424.

Sincerely,

Teresa A. Raml
District Manager

Enclosure - (1)
(1) Map of WEMO Plan Area

APPENDIX F-2

CULTURAL RESOURCE CONSULTATION

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Barstow Field Office
2601 Barstow Road
Barstow, CA 92311

In Reply Refer To:
1600/8340 (P)
LLCAD80.34

FEB 16 2012

2/14/12

CERTIFIED – RETURN RECIEPT REQUESTED
7008 1140 0000 2690 2017

2-14-2012

Milford Wayne Donaldson
State Historic Preservation Officer
California Office of Historic Preservation
PO Box 942896
Sacramento, CA 94926-0001

Dear Mr. Donaldson:

The Bureau of Land Management, Barstow Field Office (BLM) would like to consult with the California State Historic Preservation Office (SHPO) on BLM's West Mojave Plan (WEMO). In August of 2006, eleven environmental organizations sued the BLM asserting that WEMO, including the designation of an off-highway vehicle route network throughout the planning area, violated the Federal Land Policy and Management Act (FLPMA) and the National Environmental Policy Act of 1969 (NEPA). The WEMO route network will remain in place, at least through the remand period (March 31, 2014).

Subsequently, a court Remedy Order of January 2011 remanded the 2006 WEMO Plan to the BLM and directed the BLM to prepare a revised NEPA document for the OHV route network that:

(1) complies with the California Desert Conservation Area (CDCA) Plan language or changes outdated CDCA Plan language,
(2) expands the route network alternatives considered, and
(3) shows how the adopted network will minimize conflicts with other regulatory route designation criteria in 43 CFR 8342.1, in addition to threatened and endangered species.

All work, including the revised NEPA documentation and the decision to adopt the current or revised network, must be made and submitted to the court by March 31, 2014 to comply with the court Remedy Order.

The West Mojave Plan is a federal land use plan amendment that presents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel and over 100 other sensitive plants and animals and the natural communities of which they are a part.The planning area covers 9.3 million acres in the western portion of the Mojave Desert in

southern California covering parts of San Bernardino, Los Angeles, Kern, and Inyo Counties. This interagency planning process was prepared by the BLM in collaboration with the region's cities, counties, state and federal agencies. The plan applies to the 3.2 million acres of public lands within the planning area.

The Record of Decision for the West Mojave Plan /Amendment to the California Desert Conservation Area Plan was signed in March 2006.

The Western Mojave Desert Off Road Vehicle Designation Project, as modified and adopted in the WEMO Plan is a CDCA Plan Amendment that adopts a network of motorized vehicle routes on public lands as a component of the WEMO Plan. The network provides access to nearly 3 million acres of public lands within the western Mojave Desert.

The *Interim Management Program for Identifying, Evaluating, and Protecting Cultural Resources along Designated Routes of Travel in the California Desert Conservation Area* ("Program"), the administrative plan attached to *Supplemental Procedures for Desert Routes of Travel: A Cultural Resources Amendment to the State Protocol Agreement between California Bureau of Land Management and the California State Historic Preservation Officer* ("Amendment") provided the initial guidance for resolving the issue of foreclosure of the Council's opportunity to comment on decisions concerning route designations in the California Desert Conservation Area. The Program provided a research design for the BLM California Desert District to satisfy the obligations of Section 106 not completed for the *Final Environmental Impact Report and Statement for the West Mojave Plan (*WEMO). The Program and Amendment were signed in 2004, with a completion date scheduled for 2009. The Amendment expired in 2009 and has not been renewed.

In 2009, the United States District Court for the Northern District of California issued a summary judgment (Case 3:06-cv-04884-SI) in response to suit brought by eleven environmental organizations to the Bureau of Land Management and the U.S. Fish and Wildlife Service. The BLM is revising and updating the WEMO Plan according to the specifications of the Court.

The Court identified specific deficiencies in the cultural resources portions of the original WEMO EIS/EIR. The judge found that:

a. No clear definition of significant impacts to cultural resources was demonstrated.
b. No expenditure of reasonable cost was made to ascertain impacts to cultural resources.
c. No clear understanding of how the Decision Tree was used to protect cultural resources.
d. Discrepancies in information about BLM inventory of routes and the data known about cultural resources were apparent throughout the document.

Cultural Resource specific issues identified by the Court as well as the SHPO will be addressed through the following plan of action.

I. Data Synthesis

The original Program required BLM to conduct an assessment of approximately 900 site records for resources along designated open routes, as well as those with a 600 foot corridor of the route, 300 feet on either side of the centerline. The assessment focused specifically on the paper site records and topographic maps.

The following determinations were to be made:

> *Does the site record and sketch map contain detailed information on cultural constituents sufficient to understand the nature of the site?*
>
> *Is the locational information in the site record and accompanying USGS map credible?*

Given the unknown number of inventories conducted and sites recorded since the publication of the Amendment and Program, a search and review of resources and inventories, in both paper and digital format, will be completed for each route of travel. The routes with a 600 foot buffer will serve as the Area of Potential Effect, with a one-half mile buffer to provide a broader, landscape level overview of resources within the proximity of these routes.

The search will encompass private, state, and county in-holdings, however only the results for resources on public lands administered by the BLM will be subject to further investigation as outlined below.

a. Tribal and Interested Party Consultation

The California Desert District Manager will be responsible for contacting and consulting with Tribes and interested parties as outlined in 36 CFR 800 and the 8120 manual guidelines. This will also meet BLM government-to-government responsibilities for consultation.

The records review will include consultation with Native American or other cultural groups to ensure that areas of traditional cultural or religious importance are incorporated into the analysis. Interested members of the public will be invited to provide additional information about known impacts to cultural resources; resources identified by the public as being impacted will be included in the field inspections outlined below, regardless of eligibility determinations.

b. Update of GIS Systems and Sensitivity Analysis

A critical element of the initial Program was the required reporting and evaluation of the sites identified during the records review. To meet long term data management requirements and goals set by the BLM and OHP (DOI 2007: III.C.2), the GIS Cultural Resource Geodatabase systems for WEMO field offices will be brought up to date. This is a critical aspect to the

WEMO effort that will facilitate route-related decisions, as well as future management actions in the planning areas.

The initial WEMO EIS identified 33 "sub-regions" for route designation planning purposes. Using updated GIS information of resource and inventory locations, a rating of "sensitivity" will be determined for each sub-region. Sensitivity will be based on the amount of acceptable survey coverage completed within the sub-regions, number of recorded cultural resources, and number of National Register of Historic Places eligible or listed resources.

Sensitivity rating may be skewed by the amount and focus of inventory completed thus far for each sub-region. To account for this, portions of the predictive model proposed in the Program (Task III) will be incorporated into the GIS analysis; specifically topography, hydrological resources, and geologic formations. Existing data derived during the Desert Wide Inventory conducted for the CDCA Plan, while dated, sampled a variety of environmental communities throughout the WEMO area, providing baseline relationship data between environs and cultural resources. The sensitivity ratings will be further developed once the initial records search is complete, and will be used only to identify the portions of the WEMO planning areas that may be most heavily impacted by designated routes.

II. Evaluation

Evaluation of impacts to sites will be prioritized by GIS-based sensitivity ratings for each sub-region and the intensity of recreational use by sub-region. Intensity of use by sub-region will be determined by the total acreage of each sub-region, the total acreage of designated routes (mileage by 600 foot corridor), the number of developed recreational areas, and the recorded permanent residential population. Sub-regions with the highest potential visitation from the public and highest cultural resource sensitivity will be targeted first for evaluation. Based on the records review, all sites which have been determined eligible that lie within the 600 foot corridor of a designated route will be visited to assess the impacts resulting from the open route of travel. Sites which may be considered eligible will be visited and evaluated to assess impacts as a result of open routes of travel. Areas identified by Tribes and interested parties as being sensitive will be visited to assess the impacts resulting from open routes.

A sample of unevaluated sites will be field inspected along designated routes of travel. Because of funding, staff, and time constraints the BLM is proposing to sample one unevaluated site within each sub-region which would be a total of 33 sites. Determinations of eligibility to the National Register of Historic Places shall only be undertaken on sites or properties where it can be reasonably ascertained or it is ambiguous that OHV activities will continue to impact sites and further consultation with SHPO could be required.

a. Effects Determinations

BLM initially proposed to collect empirical data associated with site attributes impacted by OHV and associated activities. The proposed recordation of impacts will continue as part of the evaluation process. The impacts to each site, the dominant environmental features on site, and impacts to those environmental features will be recorded for each site. Environmental features

associated with a site may be the attractants to a site, or may contribute the degree of impacts to a site. A methodology for collecting and documenting this information shall be developed and reviewed by peers prior to implementation.

b. Specific Undertakings

As routes are identified for specific undertakings during the course of the WEMO revision, specifically where rehabilitation or improvement is proposed, a full Class III Cultural Resource Inventory will be completed. Route undertakings where historic properties are not affected may be implemented under the Protocol without prior consultation with SHPO. These undertakings shall be documented in the Protocol Annual Report. Route undertakings where historic properties are identified within APEs, and where historic values are likely to be affected or diminished by project activities, require consultation with SHPO, and ACHP if necessary, on a case-by-case basis pursuant to 36 CFR 800.5-6.

III. Standard Protection Measures

The initial Program proposed to develop Standard Protection Measures for application to a sample of sites for efficacy testing. It stated that closure and rerouting measures derived from the 1980 CDCA Plan were based on assumptions that OHV impacts were adverse and additive. The Program sought to incorporate several years of research into a host of prospective standard protection measures that were crafted for specific classes of impacts, in specific environments, and for specific classes of cultural resources.

The data necessary to develop OHV-specific Standard Protection Measures has yet to be collected. The evaluation phase of the currently proposed plan of action will provide baseline data from which Measures can be developed. For sites immediately threatened or adversely impacted by OHV use and associated activities, the following Standard Protective Measures may be applied until OHV-specific measures are developed.

Standard Protective Measures can include but are not limited to:

A. Fencing or exclosure of a cultural resource, sufficient to ensure long-term protection, according to the following specifications:

   a. The construction of the exclosure will not be a hazard to life and safety

   b. The area within the exclosure must be inventoried to locate and record all cultural resources; and

   c. The exclosure (i.e.) fence must not divide a cultural resource so that a portion is outside of the fence; and

   d. The cultural resource specialist will determine the appropriate buffer to be provided between the cultural resource and its exclosing fence.

B. Closure and restoration of the route using standard methods developed by the Recreation Staff and approved by the cultural resources specialists.

    a. Access to sacred sites or areas of cultural or religious importance is allowable following consultation

C. Withdrawal of sensitive areas from Special Recreation Permitted events (e.g. Race courses, organized group camping sites, filming locations)

D. Removal of man-made, non-contributing, or intrusive attractants to a cultural resource when such removal, in the judgment of the cultural resource specialist, will create no disturbance to the cultural resource (e.g. removing fire rings, picnic tables, modern trash or structures).

E. Other protective measures established in consultation with and accepted by SHPO.

The Standard Protective Measures defined above may be used to halt or minimize on-going damage to cultural resources. If the standard protection measures can be effectively applied, then no evaluation or further consultation with SHPO on effects will be necessary.

IV. Monitoring

The records review and analysis and field observations will provide baseline data for future monitoring along designated routes. Monitoring shall be conducted for sites with observable impacts as well as those where impacts have not been noted or recorded but fall within the APE of the WEMO routes.

Field Offices shall adopt the following monitoring guidelines:

Monitoring shall be conducted yearly and documented to ensure that prescribed treatment measures are effective.

A. When damaging effects to cultural resources from OHV activities are ambiguous or indeterminate, Field Offices shall conduct monitoring, as necessary, to determine if degrading effects are resulting from OHV activities and if they are continuing to affect the characteristics that may make properties eligible to the NRHP or if they are otherwise adversely affecting the values of cultural resources.

B. When monitoring has yielded sufficient data to make effect determinations, the following apply:
    a. When no additional degrading damage will likely occur because standard treatment measures are adequate to prevent further damage from OHV activities, SHPO consultation on a case-by-case basis is unnecessary.

b. When no additional degrading damage will likely occur, even without implementation of standard treatment measures, then no further treatment will be needed.

C. When additional degrading damage will likely occur, mitigation of adverse effects shall be addressed on a case-by-case basis, pursuant to 36 CFR 800.5-6.

V. Reporting

Each participating Field Office shall report annually to the SHPO and the State Office, a summary of activities carried out under this amendment to the Protocol during the previous fiscal year. The reporting shall be included in the Protocol Annual Report.

Annual reports shall summarize activities carried out under this amendment. These reports are not meant to be compilations of the individual project reports prepared for the OHV projects; they are meant to be programmatic summaries of data and significant findings.

Annual reporting shall include at least three major sections:

a. schedules and status of accomplishments in meeting schedules for cultural resource activities in relation to the route management program as identified in the plan; and

b. results, as annual summaries of accomplishment and significant findings resulting from route management cultural resource activities; and

c. appendices to the report that would include project, coverage and cultural resource location maps and tabular summaries of total number of cultural resources located, new cultural resources located, cultural resources evaluated, types of treatment measures employed at each location, and cultural resources monitored.

If you have questions or wish to discuss information contained in this document, please contact Jim Shearer, BLM Staff Archaeologist, at (760) 252-6034 or write to him at the above address or e-mail jshearer@blm.gov .

Sincerely,

Roxie C. Trost

Roxie C. Trost
Field Manager

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California Desert District
22835 Calle San Juan De Los Lagos
Moreno Valley, CA 92553
www.blm.gov/ca/cdd

In Reply Refer To:
8100 (P)
CAD000/CAD080.21

MAY 21 2014

Memorandum

To: State Director (CA-930)

Through: Field Manager, Barstow

Through: Field Manger, Ridgecrest

Through: District Manager, California Desert Teresa A Raml

From: West Mojave Project Manager

Subject: Formal Notification to the Advisory Council on Historic Preservation

The West Mojave Project Manager is providing formal notification of the West Mojave Plan Supplement and Travel Management Plan to the Advisory Council on Historic Preservation, Washington DC, and is requesting State Director signature on the attached letter, inviting participation and consultation with the CA BLM.

Please sign the attached letter at your earliest convenience. Edy Seehafer, West Mojave Project Manager, can be reached by telephone at 760-252-6021 if you have any questions or need additional information regarding this request.

Attachment: (1)
As stated

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
California State Office
2800 Cottage Way, Suite W-1834
Sacramento, CA 95825
www.ca.blm.gov

In Reply Refer To:
8100 (P)
CA930/CAD080

Mr. Reid Nelson, Director
Office of Federal Agency Programs
Advisory Council on Historic Preservation
Attention: Nancy Brown
Liaison to the Bureau of Land Management
1100 Pennsylvania Avenue NW, Room 803
Washington DC 20004-2501

Subject: National Historic Preservation Act (NHPA) Section 106 Notification for Development of a Programmatic Agreement (PA) for the West Mojave (WEMO) Plan in California

Dear Mr. Nelson:

The Bureau of Land Management, California State Office (BLM) invites the Advisory Council on Historic Preservation (ACHP) to consult under Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), for the West Mojave Plan Supplemental Environmental Impact Statement (EIS) and the West Mojave Route Network Project (RNP). The West Mojave planning area includes approximately 17,000[1] miles of routes of travel on 3.1[2] million acres of public lands in the West Mojave Desert, located within San Bernardino, Los Angeles, Kern, and Inyo Counties, California. The BLM and the California Office of Historic Preservation (OHP) are in consultation concerning the undertaking, the area of potential effect (APE), identification of historic properties, assessment of effects, and resolution of adverse effect. The BLM and the OHP agree that the identification efforts within the APE are not yet complete; existing and newly designated routes of travel have the potential to affect adversely historic properties; and adverse effects would be resolved through a Programmatic Agreement (PA). Pursuant to 36 CFR Subpart C§800, the BLM is inviting the ACHP to participate in the development of the PA. The information specified at 36 CFR §800.11(e) is provided in this letter.

Project Background and Undertaking

The West Mojave (WEMO) Plan is a Federal land use plan amendment to the California Desert Conservation Area (CDCA) Plan that presents a comprehensive strategy on public lands to conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals, and their natural communities. The planning area covers 9.3 million acres in the western portion of the Mojave Desert in southern California covering parts of San Bernardino, Los Angeles,

[1] This includes OHV Open Area miles and acres that are not in the proposed action.
[2] Ibid.

Kern, and Inyo counties. The WEMO Plan is an interagency planning process prepared by the BLM in collaboration with the region's cities, counties, state, and Federal agencies. The proposed West Mojave RNP is a supplement to the WEMO Plan and applies to 3.1 million acres of public lands within the planning area (Map 1).

The Record of Decision (ROD) for the WEMO Plan was signed in March 2006. As a component of the WEMO Plan, the West Mojave Desert Off Road Vehicle Designation Project identified a network of motorized vehicle routes on public lands. The designation project was incorporated with the ROD and included a network of 5,000 miles of routes available for off-highway travel.

In 2009, the United States District Court for the Northern District of California issued a summary judgment (Case 3:06-cv-04884-SI) in response to the lawsuit brought by eleven environmental organizations to the Bureau of Land Management and the U.S. Fish and Wildlife Service for the WEMO Plan. Subsequently, a court Remedy Order of January 2011 remanded the 2006 WEMO Plan to the BLM and directed the BLM to prepare a revised National Environmental Policy Act (NEPA) document for the off-highway vehicle (OHV) route network and supplement the WEMO Plan according to the specifications of the court. All work, including the revised NEPA documentation and the decision to adopt the current or updated network, must be made and submitted to the court by May 31, 2015, to comply with the court Remedy Order.

The proposed undertaking is to re-evaluate the current West Mojave Plan route network, identify OHV routes of travel suitable for use, and implement the management of designated routes that is compliant with all relevant authorities. The BLM will designate the 17,000 miles of existing routes outside of OHV open-areas as open or closed to off-highway travel, or limited to specific types of travel including non-motorized (e.g., bicycle) or non-mechanized (e.g., equestrian or pedestrian). These designations will result in on-the-ground implementation and management strategies that may include the installation of barriers and signs, rehabilitation of closed routes, realignment of routes to avoid resources, or other actions designed to minimize impacts to all varieties of resources while maintaining the BLM multiple use mission of allowing access to public lands.

Area of Potential Effects

The BLM identifies the Area of Potential Effects (APE) for the West Mojave Plan as the 3.1 million acres of public lands.

The BLM tentatively identifies the APE for the West Mojave Route Network Project route designations as the road features plus a 600-foot-wide corridor. This includes the area allowable by BLM regulations for pulling off, parking, and dispersed camping along each route, and areas near or adjacent to routes that may be subject to effects related to use of the route. In areas where cultural and historical landscapes are identified through the consultation process, the APEs may be extended beyond the route and the 600-foot corridor of use.

Identification and Evaluation of Resources to Date

Cultural resource inventories completed to date in the WEMO planning area include the sampling survey associated with the original CDCA Plan, large-scale renewable energy projects, infrastructure projects such as highway and transmission corridors, and small-scale development projects. The BLM has also conducted 90 inventories associated with OHV travel, equating to approximately 20,000 acres of inventory.

Approximately 9,500 historic properties have been identified within the West Mojave RNP planning area. Of these, 3,345 have been identified within the 600-foot APE. There are 16 properties listed in the National Register of Historic Places (NRHP) within the planning area, 8 of which have been designated as a District with multiple properties within the boundaries (Table 1). Approximately 150 properties have been recommended eligible for listing to the NRHP. The majority of resources within the APE have not been evaluated.

Prehistoric property types located within the project area include lithic scatters, temporary campsites, large habitation sites, milling features, quarry sites, and rock art. Historic property types include trash scatters, mining sites, ranches and homesteads, town sites, and military installments associated with the Desert Training Center. Linear features include the Los Angeles Aqueduct, the Old Spanish Trail, the Pacific Crest Trail, several railroads, and networks of historic roads and prehistoric trails. In addition, ethnographic villages, routes of forced migration marches, and areas of traditional cultural use have been identified through previous and an on-going consultation with Tribal groups and other interested parties.

Table 1. National Register of Historic Places Listed Properties within the APE

Property Name	County	Sites Included	Known Values
Bandit Rock (Robber's Roost)	Kern	1	Historic (Prehistoric sites within boundary)
Blackwater Well	Kern	17	Prehistoric
Walker Pass NHL	Kern	1	Historic
Burro Schmidt Tunnel	Kern	1	Historic
Last Chance Canyon	Kern	160	Prehistoric/historic/Native American
Ayers Rock	Inyo	INY-134	Prehistoric
Fossil Falls Archaeological District	Inyo	32	Prehistoric
Trona Pinnacles Railroad Camp	San Bernardino	1	Historic
Red Mountain Spring Archaeological District	San Bernardino	23	Mostly prehistoric but some historic remains
Steam Well Archaeological District	San Bernardino	4	Prehistoric
The 20-Mule Team Borax Wagon Road	San Bernardino	KER-3927H	Historic
Fossil Canyon	San Bernardino	SBR-2841, SBR-2058	Scientific, conservation, traditional use, public
Rodman Mountain Petroglyphs	San Bernardino	SBR-307A, B, C/ SBR-306A, B, C	Scientific, conservation, traditional use, public
Black Mountain Rock Art District	San Bernardino	5	Prehistoric/Native American
Newberry Cave	San Bernardino	SBR-199	Prehistoric
Calico Mountains Archaeological District	San Bernardino	2	Prehistoric
Lake Mojave	San Bernardino	CA-SBR-140	Prehistoric

Plan for Assessment and Resolution of Effects

The BLM has determined through the monitoring of 85 previously recorded properties within the APE in 2013, including all the NRHP listed resources, that off-highway travel is impacting known sites and is likely to be occurring in sites yet to be identified. Effects to historic and prehistoric properties observed during the 2013 monitoring program and in previous OHV specific inventories were determined to be associated with authorized and unauthorized travel. These effects include travel through properties located adjacent to routes; camping and the construction of fire ring features within historic and prehistoric properties; looting; "scrapping" of historic materials at sites accessible by road; and increased erosion and loss of vegetation as a result of vehicle use. The BLM anticipates that effects to historic properties resulting from the adoption and implementation of the West Mojave RNP are likely to be similar and repetitive across the entire plan area.

Because much of the West Mojave RNP planning area, and particularly routes of travel, have not been completely inventoried for cultural resources, the BLM is developing a Geographic Information System (GIS) model to identify areas where cultural resource properties are likely be located. This GIS model will not replace Class III inventory, but will instead provide a method through which the BLM will prioritize areas where inventory, evaluation, and the resolution of adverse effect needs are the most immediate.

The identification of historic properties, assessment of effects, and resolution of effects will not be completed prior to the West Mojave RNP Record of Decision; the BLM is proposing a phased approach pursuant to 36 CFR§800.4 through the development of a programmatic agreement as allowable at 36 CFR§800.14 (b).

Tribal Consultation

Previous and on-going tribal consultations indicate that the West Mojave RNP planning area includes the traditional cultural area of 13 federally recognized Tribal groups and 5 non-federally recognized Tribal groups and communities. Consistent with NHPA (36 CFR§800) and BLM (43 CFR§8100) regulations, the BLM initiated consultation with these Tribes in November 2011. The BLM has made presentations to Tribal councils during regularly scheduled consultations since initial contact, and has provided information at Open Houses for Tribes in numerous locations in 2013 and 2014, along with conducting individual meetings with deliveries of project maps and digital shapefiles.

Table 2. Tribal Entities Consulted To Date

Federally Recognized Tribes	Non-Federally Recognized Tribes
Agua Caliente Band of Cahuilla Indians	Kawaiisu Tribe
Big Pine Paiute Tribe of the Owens Valley	Kern Valley Indian Council
Bishop Paiute Tribe	Kern Valley Paiute Council
Chemehuevi Reservation	Monache Intertribal Council
Colorado River Indian Tribes	Tubatulabals of Kern Valley
Fort Independence Band of Paiute Indians	
Lone Pine Paiute-Shoshone Tribe	
Morongo Band of Mission Indians	
San Manual Band of Mission Indians	

Timbi-sha Shoshone Tribe Tejon Indian Tribe Twenty-Nine Palms Band of Mission Indians	

Consultation with these Tribes has indicated that concerns include avoidance of historic properties and sites regardless of NRHP eligibility, avoidance of burials, protection and preservation of resources for generations to come, and continued access for Tribal members to areas of importance and sacred sites.

Interested Party Outreach

The BLM has identified interested groups who will be invited as consulting parties to the PA, including several local Friends groups; the Desert BLM Advisory Council; historical societies; local, county, state, and Federal agencies. Meetings recently took place or are scheduled with San Bernardino, Kern, and Inyo County governments; California City and Ridgecrest City councils; and San Bernardino, Sequoia, and Inyo National Forests. These entities have been or will be briefed on the PA, given informational materials, and asked to consider participating in the PA process. Officials from Death Valley National Park have indicated verbal interest in consulting on the PA. Similar outreach will be made to Joshua Tree National Park, the Mojave National Preserve, and other local entities.

In closing, this letter provides formal notification of the WEMO Plan Supplemental EIS and West Mojave RNP. We invite the ACHP to participate in consultation to resolve any adverse effects from this proposed project through a PA as provided at 36 CFR §800.4 (b). For additional information concerning this project, contact Ashley Blythe, Archaeologist, BLM Ridgecrest Field Office, at (760) 384-5424, and by email at ablythe@blm.gov.

I appreciate your consideration to this request and look forward to hearing from you regarding your participation.

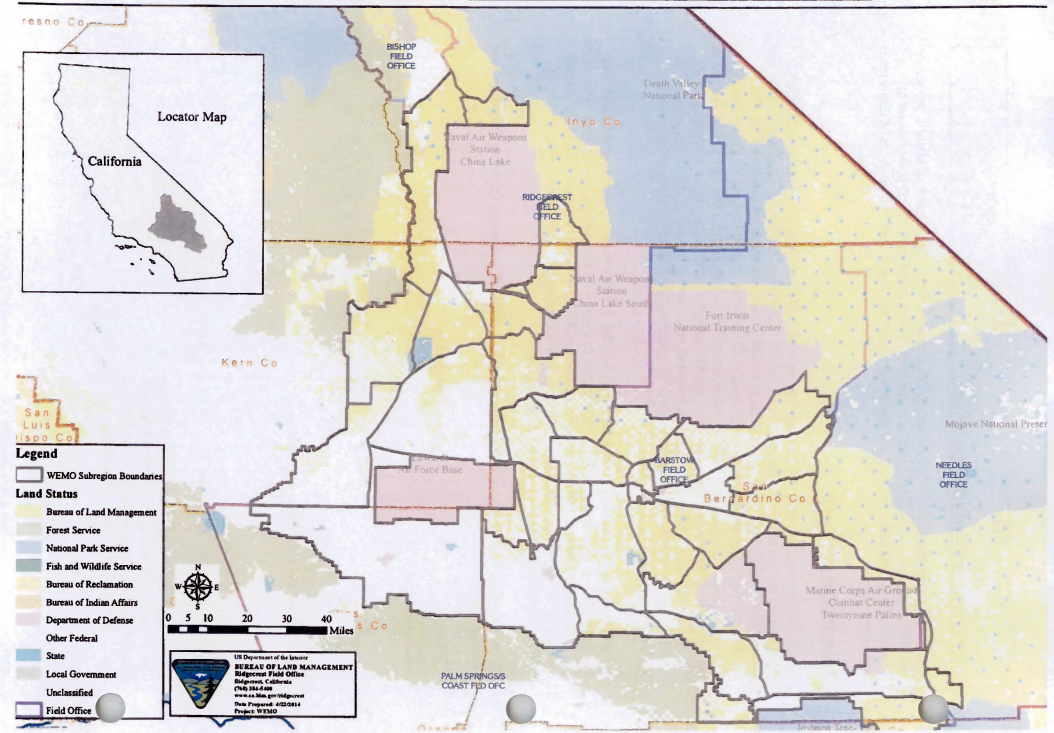
Sincerely,

James G. Kenna
California State Director

Enclosure:
Map 1: West Mojave Plan Area Overview

cc:
Teresa Raml, California Desert District Manager
Carl Symons, Ridgecrest Field Office Manager
Katrina Symons, Barstow Field Office Manager
Ashley Blythe, Ridgecrest Archaeologist

West Mojave Plan Area Overview



United States Department of the Interior
BUREAU OF LAND MANAGEMENT
California State Office
2800 Cottage Way, Suite W1623
Sacramento, CA 95825
www.blm.gov/ca

JUN 10 2014

In Reply Refer To:
8100 (CA930)P

Mr. Reid Nelson, Director
Office of Federal Agency Programs
Advisory Council on Historic Preservation
Attention: Nancy Brown
Liaison to the Bureau of Land Management
401 F Street NW, Suite 308
Washington DC 20001-2637

Subject: National Historic Preservation Act (NHPA) Section 106 Notification for Development of a Programmatic Agreement (PA) for the West Mojave (WEMO) Plan in California

Dear Mr. Nelson:

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conserve and protect the desert tortoise, the Mohave ground squirrel, and over 100 other sensitive plants and animals, and their natural communities. The planning area covers 9.3 million acres in the western portion of the Mojave Desert in southern California covering parts of San Bernardino, Los Angeles, Kern, and Inyo counties. The WEMO Plan was prepared by the BLM in collaboration with the region's cities, counties, state, and federal agencies. The proposed West Mojave RNP is a supplement to the WEMO Plan and applies to 3.1 million acres of public lands within the planning area (Map 1). A supplemental EIS is being prepared.

The Record of Decision (ROD) for the WEMO Plan was signed in March 2006. As a component of the WEMO Plan, the West Mojave Desert Off-Road Vehicle Designation Project identified a network of motorized vehicle routes on public lands. The designation project was incorporated with the ROD and included a network of 5,000 miles of routes available for off-highway travel.

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Cultural resource inventories completed to date in the WEMO planning area include the sampling survey associated with the original CDCA Plan, large-scale renewable energy projects, infrastructure projects such as highway and transmission corridors, and small-scale development projects. The BLM has also conducted 90 inventories associated with OHV travel, equating to approximately 20,000 acres of inventory.

Approximately 9,500 historic properties have been identified within the West Mojave RNP planning area. Of these, 3,345 have been identified within the 600-foot APE. There are 16 properties listed in the National Register of Historic Places (NRHP) within the planning area, 8 of which have been designated as a District with multiple properties within the boundaries (Table 1). Approximately 150 properties have been recommended eligible for listing to the NRHP. The majority of resources within the APE have not been evaluated.

Prehistoric property types located within the project area include lithic scatters, temporary campsites, large habitation sites, milling features, quarry sites, and rock art. Historic property types include trash scatters, mining sites, ranches and homesteads, town sites, and military installments associated with the Desert Training Center. Linear features include the Los Angeles Aqueduct, the Old Spanish Trail, the Pacific Crest Trail, several railroads, and networks of historic roads and prehistoric trails. In addition, ethnographic villages, routes of forced migration marches, and areas of traditional cultural use have been identified through previous and on-going consultation with Tribal groups and other interested parties.

Table 1. National Register of Historic Places Listed Properties within the APE

Property Name	County	Sites Included	Known Values
Bandit Rock (Robber's Roost)	Kern	1	Historic (Prehistoric sites within boundary)
Blackwater Well	Kern	17	Prehistoric
Walker Pass NHL	Kern	1	Historic
Burro Schmidt Tunnel	Kern	1	Historic
Last Chance Canyon	Kern	160	Prehistoric/historic/Native American
Ayers Rock	Inyo	INY-134	Prehistoric
Fossil Falls Archaeological District	Inyo	32	Prehistoric
Trona Pinnacles Railroad Camp	San Bernardino	1	Historic
Red Mountain Spring Archaeological District	San Bernardino	23	Mostly prehistoric but some historic remains
Steam Well Archaeological District	San Bernardino	4	Prehistoric
The 20-Mule Team Borax Wagon Road	San Bernardino	KER-3927H	Historic

Fossil Canyon	San Bernardino	SBR-2841, SBR-2058	Scientific, conservation, traditional use, public
Rodman Mountain Petroglyphs	San Bernardino	SBR-307A, B, C/ SBR-306A, B, C	Scientific, conservation, traditional use, public
Black Mountain Rock Art District	San Bernardino	5	Prehistoric/Native American
Newberry Cave	San Bernardino	SBR-199	Prehistoric
Calico Mountains Archaeological District	San Bernardino	2	Prehistoric
Lake Mojave	San Bernardino	CA-SBR-140	Prehistoric

Plan for Assessment and Resolution of Effects

The BLM has determined through the monitoring of 85 previously recorded properties within the APE in 2013, including all the NRHP listed resources, that off-highway travel is impacting known sites and is likely to be occurring in sites yet to be identified. Effects to historic and prehistoric resources observed during the 2013 monitoring program and in previous OHV specific inventories were determined to be associated with authorized and unauthorized travel. These effects include travel through properties located adjacent to routes; camping and the construction of fire ring features within historic and prehistoric resources; looting; "scrapping" of historic materials at sites accessible by road; and increased erosion and loss of vegetation as a result of vehicle use. The BLM anticipates that effects to historic properties resulting from the adoption and implementation of the West Mojave RNP are likely to be similar and repetitive across the entire plan area.

Because much of the West Mojave RNP planning area, and particularly routes of travel, have not been completely inventoried for cultural resources, the BLM is developing a Geographic Information System (GIS) model to identify areas where cultural resource properties are likely be located. This GIS model will not replace Class III inventory, but will instead provide a method through which the BLM will prioritize areas where inventory, evaluation, and the resolution of adverse effect needs are the most immediate.

The identification of historic properties, assessment of effects, and resolution of effects will not be completed prior to the West Mojave RNP Record of Decision; the BLM is proposing a phased approach pursuant to 36 CFR§800.4 through the development of a programmatic agreement as allowable at 36 CFR§800.14 (b).

Tribal Consultation

Previous and on-going tribal consultations indicate that the West Mojave RNP planning area includes the traditional cultural area of 13 Federally-recognized Tribal groups and 5 non-Federally- recognized Tribal groups and communities. Consistent with NHPA (36 CFR§800) and BLM (43 CFR§8100) regulations, the BLM initiated consultation with these Tribes in November 2011. The BLM has made presentations to Tribal councils during regularly scheduled consultations since initial contact, and has provided information at open houses for Tribes in

numerous locations in 2013 and 2014, along with conducting individual meetings with deliveries of project maps and digital shapefiles.

Table 2. Tribal Entities Consulted To Date

Federally Recognized Tribes	Non-Federally Recognized Tribes
Agua Caliente Band of Cahuilla Indians	Kawaiisu Tribe
Big Pine Paiute Tribe of the Owens Valley	Kern Valley Indian Council
Bishop Paiute Tribe	Kern Valley Paiute Council
Chemehuevi Reservation	Monache Intertribal Council
Colorado River Indian Tribes	Tubatulabals of Kern Valley
Fort Independence Band of Paiute Indians	
Lone Pine Paiute-Shoshone Tribe	
Morongo Band of Mission Indians	
San Manual Band of Mission Indians	
Timbi-sha Shoshone Tribe	
Tejon Indian Tribe	
Twenty-Nine Palms Band of Mission Indians	

Consultation with these Tribes has indicated that concerns include avoidance of historic properties and sites regardless of NRHP eligibility, avoidance of burials, protection and preservation of resources for generations to come, and continued access for Tribal members to areas of importance and sacred sites.

Interested Party Outreach

The BLM has identified interested groups who will be invited as consulting parties to the PA, including several local Friends groups; the Desert BLM Advisory Council; historical societies; local, county, state, and federal agencies. Meetings recently took place or are scheduled with San Bernardino, Kern, and Inyo County governments; California City and Ridgecrest City councils; and San Bernardino, Sequoia, and Inyo National Forests. These entities have been or will be briefed on the PA, given informational materials, and asked to consider participating in the PA process. Officials from Death Valley National Park have indicated verbal interest in consulting on the PA. Similar outreach will be made to Joshua Tree National Park, the Mojave National Preserve, and other local entities.

In closing, this letter provides formal notification of the WEMO Plan Supplemental EIS and West Mojave RNP. We invite the ACHP to participate in consultation to resolve any adverse effects from this proposed project through a PA as provided at 36 CFR §800.4 (b). For additional information concerning this project, contact Ashley Blythe, Archaeologist, BLM Ridgecrest Field Office, at (760) 384-5424, and by E-mail at ablythe@blm.gov.

I appreciate your consideration to this request and look forward to hearing from you regarding your participation.

Sincerely,

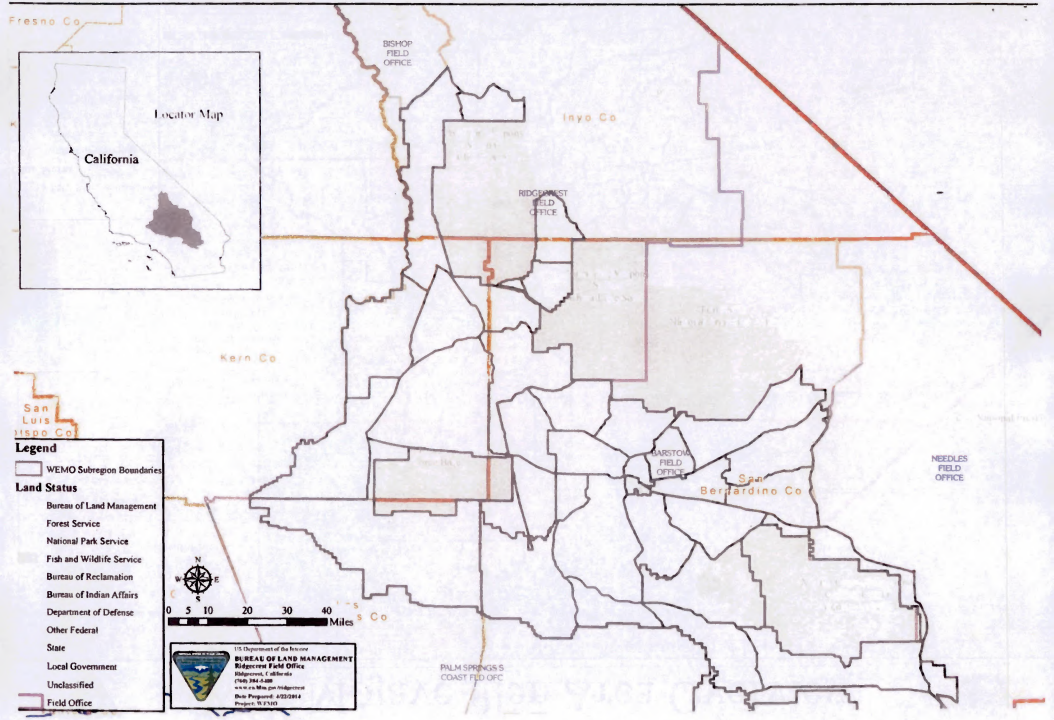
Angie Lara

for James G. Kenna
State Director

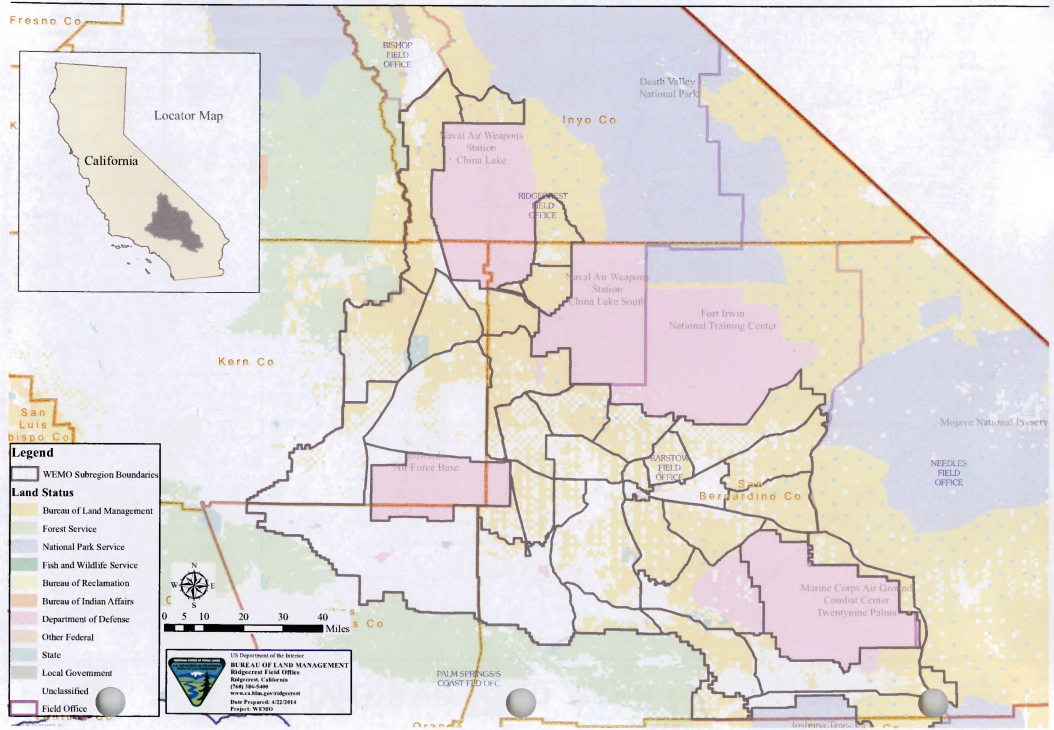
Enclosure:
Map 1: West Mojave Plan Area Overview

cc: (CA-610) Teresa Raml, California Desert District Manager
(CA-650) Carl Symons, Ridgecrest Field Office Manager
(CA-680) Katrina Symons, Barstow Field Office Manager
(CA-650) Ashley Blythe, Ridgecrest Archaeologist
(CA930) Tony Overly, Archaeologist

West Mojave Plan Area Overview



West Mojave Plan Area Overview



APPENDIX F-3

AIR QUALITY CONSULTATION

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
California State Office
2800 Cottage Way, Suite W1623
Sacramento, CA 95825
www.blm.gov/ca

In Reply Refer To:
8340 (CA930)P

JUL 25 2012

Mr. Alan Desalvio
Supervising Engineer
Mojave Desert Air Quality District
14306 Park Avenue
Victorville CA 92392

Dear Mr. Desalvio:

This is a follow-up message to a phone call you received from Jim Keeler, from our State Office in Sacramento.

On December 15, 2011, a team of BLM staff visited you and your staff at the request of the BLM California Desert District manager. The group discussed BLM California Desert District's need for additional information and advice about techniques for monitoring dust emissions (specifically PM10) caused by recreational vehicles used on roads, trails, and open riding areas.

The specific area we discussed was the BLM's West Mojave Plan area, most of which is in lands within the jurisdiction of the Mojave Desert Air Quality District, but also includes lands within the jurisdiction of the East Kern, Antelope, and Great Basin Districts.

To briefly summarize the December 15 meeting, as part litigation on the West Mojave Management Plan (WEMO), a Remedy Order included the requirement: *"The BLM shall carry out additional information gathering and monitoring regarding (a) air quality in and around open areas through air quality monitoring..."*

The BLM obtained a grant from the California State Park's Off-Highway Vehicle program to contract a process to meet this requirement, or provide better information for the court on the current status of monitoring already in place. Before the end of the meeting, it became very apparent that your agency was an obvious choice for a cooperative report. You offered to have your staff prepare a report, with our assistance, to document the status of emissions monitoring already in place, and the difficulties of point source monitoring. The BLM offered to prepare a contract for your services.

Unfortunately, other pressing issues by the BLM delayed a more prompt response. On a telephone follow-up conversation of July 19, 2012, Jim Keeler, informed you that two members of the original team, Jim Keeler and Karl Stein, will be retiring and unable to continue with coordination of the project. BLM has appointed a new Physical Scientist, David Jones, for our Air Quality Program (shared position between BLM California and Nevada), who will be leading the continuation of this project, with assistance from Glenn Harris.

Contact Information Is:

David Jones
Physical Scientist, Air Quality
BLM, Nevada State Office
(775) 861-6473

Glenn Harris
Natural Resource Specialist
BLM, Ridgecrest Field Office
(760) 384-5434

David or Glenn will be contacting you during the next few weeks to set up a follow-up meeting to take the next steps to initiate this evaluation and discuss any related activities. We apologize for the earlier delay, and look forward to working with you soon.

Sincerely,

Tom Pogacnik
Deputy State Director, Resources

APPENDIX F-4

ENDANGERED SPECIES ACT CONSULTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
PAS 839.3533.4819

January 9, 2006

Memorandum

To: District Manager, California Desert District, Bureau of Land Management, Moreno Valley, California

From: Field Supervisor, Ventura Fish and Wildlife Office, Ventura, California

Subject: Biological Opinion for the California Desert Conservation Area Plan [West Mojave Plan] (6840(P) CA-063.50) (1-8-03-F-58)

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the California Desert Conservation Area Plan, as proposed to be amended by the West Mojave Plan. At issue are the effects of the California Desert Conservation Area Plan, as proposed to be amended by the West Mojave Plan, on the federally threatened desert tortoise (*Gopherus agassizii*) and Parish's daisy (*Erigeron parishii*) and the endangered Cushenbury milk-vetch (*Astragalus albens*) and Lane Mountain milk-vetch (*A. jaegerianus*); you also requested formal consultation regarding critical habitat of the first three species. This document was prepared in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) (Act). Your request for formal consultation was dated July 15, 2003.

This biological opinion is based on information in: the final environmental impact report and statement for the West Mojave Plan (Bureau of Land Management (Bureau) et al. 2005); various written and oral communications, including meetings among staff of the Service and the Bureau; and various reports and publications. A complete administrative record of this consultation is on file at the Service's Ventura Fish and Wildlife Office.

CONSULTATION HISTORY

History of the West Mojave Plan

Preparation of the West Mojave Plan began in January 1992 with several scoping meetings. The Bureau sought and obtained the participation of local and State agencies, resource agencies, and stakeholders in attempting to craft a plan that balanced conservation, recreation, and economic needs. The participants in the planning process met, either in full groups or committees, numerous times over approximately 10 years. A final round of scoping meetings, to assist in

preparing the draft environmental impact statement, was held in June and July 2002. In January and February 2003, local agencies held scoping meetings to begin preparation of environmental documents, pursuant to the California Environmental Quality Act (Bureau et al. 2005). The draft environmental impact report and statement was released to the public in May 2003; the final environmental impact report and statement was released in March 2005. These documents contain a more detailed description of the planning process that generated the West Mojave Plan.

The final environmental impact report and statement for the West Mojave Plan (Bureau et al. 2005) actually describes two separate but related processes. The environmental impact report and statement describes the Bureau's proposed amendment to the California Desert Conservation Area Plan, which is the subject of this consultation. It also describes a habitat conservation plan in support of an incidental take permit, pursuant to section 10(a)(1)(B) of the Act, that non-federal entities in the western Mojave Desert planning area are in the process of preparing. If the Service issues an incidental take permit to the non-federal entities, the habitat conservation plan would complement the management actions that the Bureau has proposed to undertake on public lands. At the appropriate time, the effects of the proposed issuance of an incidental take permit for the non-federal portion of the West Mojave Plan will be evaluated in a separate biological opinion.

History of the California Desert Conservation Area Plan Consultations

On March 16, 2000, the Center for Biological Diversity, the Sierra Club, and the Public Employees for Environmental Responsibility filed a lawsuit against the Bureau. The plaintiffs alleged that the Bureau violated section 7(a)(2) of the Act and its implementing regulations by failing to initiate and complete a programmatic consultation with the Service on the effects of the California Desert Conservation Area Plan, its amendments, and all related actions that may affect listed species in the California Desert Conservation Area that are authorized, approved, allowed, or otherwise carried out pursuant to the California Desert Conservation Area Plan and its amendments. The plaintiffs also alleged that the Bureau violated section 7(d) of the Act and its implementing regulations by authorizing, allowing, or otherwise carrying out a variety of land use practices and other projects that may affect federally listed species prior to completing consultation with the Service on the California Desert Conservation Area Plan and its amendments.

On August 25, 2000, the plaintiffs and the Bureau signed a settlement agreement that was approved by the U.S. District Court, Northern California Division as a Consent Decree. Terms of the agreement required that the Bureau enter into formal consultation with the Service under section 7(a)(2) of the Act on the California Desert Conservation Area Plan as it would be modified by proposed amendments resulting from various planning efforts, such as the Northern and Eastern Mojave Desert Management Plan and Northern and Eastern Colorado Desert Coordinated Management Plan. On January 16, 2001, the plaintiffs and the Bureau agreed to a second settlement agreement that described 58 interim measures intended to promote the conservation of various listed species within the California desert.

The Consent Decree was amended on May 1, 2002. This amendment incorporated 15 additional interim measures intended to promote the conservation of various listed species within the California desert. Two measures were specific to the planning area in the western Mojave Desert.

Because the California Desert Conservation Area covers approximately 25 million acres and land management issues are substantially different across the desert landscape, the Bureau divided the California Desert Conservation Area into five bioregional planning areas. These planning areas include the western Mojave Desert, the northern and eastern Mojave Desert, the northern and eastern Colorado Desert, the western Colorado Desert, and the Coachella Valley. Planning efforts have been completed in all regions, except for the western Mojave Desert bioregion.

The Bureau and Service agreed that the most efficient means of consulting on the California Desert Conservation Area Plan was to address specific groups of species in separate consultations. Therefore, the requirement of the first settlement agreement was satisfied in a series of consultations, with the Service issuing biological opinions for numerous species throughout the California desert; this biological opinion will complete the consultation process on the California Desert Conservation Area Plan. The following paragraphs describe those consultations that are relevant to the western Mojave Desert planning area.

In a biological opinion dated June 17, 2002, we concluded that the California Desert Conservation Area Plan, as it had been formally amended since 1980, modified by previous consultations related to grazing in the western Mojave Desert, modified by proposed interim conservation measures, and proposed to be modified by the Northern and Eastern Mojave Desert Management Plan and Northern and Eastern Colorado Desert Coordinated Management Plan, was not likely to jeopardize the continued existence of the desert tortoise or adversely modify its critical habitat (Service 2002a).

On December 17, 2002, we issued a biological opinion in which we concluded that the California Desert Conservation Area Plan, as it had been formally amended since 1980, modified by previous consultations related to grazing in the western Mojave Desert, modified by proposed interim conservation measures, and proposed to be modified by the Northern and Eastern Mojave Desert Management Plan and Northern and Eastern Colorado Desert Coordinated Management Plan, was not likely to jeopardize the continued existence of the endangered southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), or arroyo toad (*Bufo californianus*) (Service 2002b).

By memorandum dated March 17, 2003 (Bureau 2003d), the Bureau requested the Service's concurrence, pursuant to section 7(a)(2) of the Act, that the proposed designation of routes of travel in the western Mojave Desert was not likely to adversely affect the desert tortoise, the listed carbonate plants, and their critical habitats (i.e., Parish's daisy and the endangered Cushenbury oxytheca (*Oxytheca parishii* var. *goodmaniana*), Cushenbury milk-vetch, and Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*)). By memorandum dated April 7, 2003 (Bureau 2003e), you requested our concurrence that the proposed designation of routes of travel in the western Mojave Desert was not likely to adversely affect Lane Mountain milk-

vetch. In these memoranda, you also requested our concurrence that the proposed designation of routes of travel would not affect the bald eagle (*Haliaeetus leucocephalus*), least Bell's vireo, southwestern willow flycatcher, California red-legged frog (*Rana aurora draytonii*), arroyo toad, Mohave tui chub (*Gila bicolor mohavensis*), and triple-ribbed milk-vetch (*A. tricarinatus*). (The bald eagle and California red-legged frog are federally listed as threatened; the Mohave tui chub and triple-ribbed milk-vetch are listed as endangered.) On June 30, 2003, we responded, via memorandum that we concurred with your determinations for all of the species except for the desert tortoise and Lane Mountain milk-vetch. In the same document, we provided our biological opinion that the proposed designation of routes of travel in the western Mojave Desert was not likely to jeopardize the continued existence of the desert tortoise or Lane Mountain milk-vetch or adversely modify the critical habitat of the desert tortoise (Service 2003a).

On September 25, 2003, we issued a biological opinion in which we concluded that the California Desert Conservation Area Plan, as it had been formally amended since 1980, modified by previous consultations related to grazing in the western Mojave Desert, and modified by proposed interim conservation measures, was not likely to jeopardize the continued existence of the carbonate plant species or adversely modify their critical habitat (Service 2003b).

By memorandum dated October 17, 2003, we concurred with your determinations that the California Desert Conservation Area Plan, as it had been formally amended since 1980, modified by previous consultations related to grazing in the western Mojave Desert, and modified by proposed interim conservation measures, was not likely to adversely affect the threatened Inyo California towhee (*Pipilo crissalis eremophilus*) and bald eagle and the endangered Yuma clapper rail (*Rallus longirostrus yumanensis*) and Mohave tui chub. On September 8, 2003, the Service withdrew its proposal to list the mountain plover (*Charadrius montanus*) as an endangered species; consequently, we notified you via memorandum that we would not consider this species in our evaluation of your determination (Service 2003c).

On May 27, 2003, the plaintiffs (joined by Desert Survivors) filed a related lawsuit in U.S. District Court, Northern District of California against the Bureau and the Service challenging issuance of the June 17, 2002, biological opinion and implementation of the California Desert Conservation Area plan (as amended). On June 20, 2003, the American Motorcycle Association District 37, Off-road Business Association, San Diego Off-road Vehicle Association, and Utah Shared Access Alliance filed a lawsuit in U.S. District Court, District of Utah against the Bureau and the Service for the alleged failure to implement the recovery plan for the desert tortoise. The suit was later transferred to the Northern District of California and amended to challenge the June 17, 2002, biological opinion.

In an August 3, 2004, order, the District Court held that the Service had relied on an invalid regulatory definition of "adverse modification" while analyzing effects to designated critical habitat in the June 17, 2002, biological opinion. The biological opinion was vacated and remanded to the Service with instructions to reissue the biological opinion after applying the appropriate definition of adverse modification, which the District Court defined as "a direct or

indirect alteration of critical habitat which appreciably diminishes the value of that habitat for either the survival or recovery of a listed species."

The District Court responded to the defendants' and plaintiffs' subsequent motions to alter or amend the judgment and for injunctive relief, respectively, in a December 30, 2004, order that, among other things, no longer prescribes a specific definition for adverse modification but adopts the following language amending the August 3, 2004, order:

> The Court finds, for example, that a proper definition of "destruction or adverse modification" would be "a direct or indirect alteration of critical habitat which appreciably diminishes the value of that habitat for either the survival or recovery of a listed species." The Court hereby vacates and remands the biological opinion to the Service to reconsider its biological opinion of the (California Desert Conservation Area) Plan in light of the appropriate standard.

Proposed Critical Habitat of Lane Mountain Milk-Vetch

Subsequent to your original request for formal consultation on the West Mojave Plan, the Service published a proposed rule to designate critical habitat for Lane Mountain milk-vetch (69 *Federal Register* 18018). By memorandum dated August 20, 2004, the Bureau requested formal conference, pursuant to section 7(a)(4) of the Act, with regard to proposed critical habitat of Lane Mountain milk-vetch (Bureau 2004a). However, on April 8, 2005, we published a final rule that did not designate any critical habitat (70 *Federal Register* 18220). Consequently, we will not address your request for formal conference regarding proposed critical habitat of Lane Mountain milk-vetch in this biological opinion.

Other Listed Species within the West Mojave Planning Area

In your request for formal consultation, you also requested our concurrence that the proposed action is not likely to adversely affect the Inyo California towhee or its critical habitat. As noted in the previous paragraph, we concurred with your determination that the California Desert Conservation Area Plan, as it had been formally amended since 1980, modified by previous consultations related to grazing in the western Mojave Desert, and modified by proposed interim conservation measures, was not likely to adversely affect the Inyo California towhee or its critical habitat. The proposed action does not change the management of the lands upon which this species occurs; consequently, we again concur with your determination that the proposed action is not likely to adversely affect the Inyo California towhee or its critical habitat. We note that the Bureau has proposed to remove invasive plant species, such as tamarisk (*Tamarix* spp.) and common reed (*Phragmites australis*) over time at 11 springs in the Great Falls Basin Area of Critical Environmental Concern. It will also monitor Peach Springs in the Argus Mountains Wilderness to ensure that burros are not damaging habitat. These actions, in general, would benefit the Inyo California towhee; the Bureau will consult with the Service, pursuant to section 7(a)(2) of the Act, at the time specific actions are implemented, if appropriate.

You also requested our concurrence that the proposed action is not likely to adversely affect the Cushenbury buckwheat and Cushenbury oxytheca or the critical habitat of these carbonate plant species. Through the West Mojave Plan, the Bureau will create an area of critical environmental concern for the Cushenbury oxytheca and Cushenbury buckwheat and will designate all the roads therein as limited (to use by claimholders only). The Bureau also proposes a land exchange with the Cushenbury Mine Trust to attempt to acquire lands within the area of critical environmental concern that support both the Cushenbury oxytheca and Cushenbury buckwheat. The only occurrence of Cushenbury oxytheca within the California Desert Conservation Area is located on Cushenbury Mine Trust lands near the boundary with the San Bernardino National Forest east of Highway 18. The new area of critical environmental concern would protect on public lands at least 5 polygons totaling 160 acres of Cushenbury buckwheat. An additional 160 acres of the Cushenbury buckwheat are located on the Cushenbury Mine Trust lands that the Bureau hopes to acquire by exchange. Acquired lands will not be opened to mineral entry. A land use standard of no surface disturbance to prevent undue degradation would apply within the area of critical environmental concern. Underground mining could be allowed; however, the Bureau must first approve a plan of operations. Because the only occurrences of the Cushenbury oxytheca and Cushenbury buckwheat within the California Desert Conservation Area would be protected by the measures proposed by the Bureau, we concur with your determination that the West Mojave Plan, as proposed, is not likely to adversely affect the Cushenbury oxytheca and Cushenbury buckwheat and their critical habitat.

The Bureau also determined that the proposed action will not affect the bald eagle, Yuma clapper rail, least Bell's vireo, southwestern willow flycatcher, mountain plover, California red-legged frog, Mohave tui chub, triple-ribbed milk-vetch, and Hoover's wooly-star. Bald eagles traverse the western Mojave Desert but do not winter on public lands or breed in this region. We acknowledge that the bald eagle will not be affected by the Bureau's programs because its occurrence on public lands within the planning area is transitory.

Yuma clapper rails were documented at Harper and East Cronese Dry Lakes over 23 years ago; Garrett and Dunn (1981) consider these locations to be "extralimital" or not within the normal range of the species. Consequently, because it has not been detected in the western Mojave Desert since the early 1980s and is not currently known to occur within the planning area, implementation of the West Mojave Plan will not affect the Yuma clapper rail.

We are not aware of southwestern willow flycatchers breeding on lands managed by the Bureau in the planning area (Service 2002b). Least Bell's vireos breed within the Big Morongo Canyon Area of Critical Environmental Concern (LaPre 2005i). Both species migrate through the western Mojave Desert and, during migration, could use any type of riparian habitat in the planning area in a transitory manner. The proposed action will not affect individuals of these species during migration because of their transitory presence at any given site within the planning area and because provisions of the proposed action are generally protective of riparian habitat throughout the planning area. The proposed action will not affect breeding least Bell's vireos at the Big Morongo Canyon Area of Critical Environmental Concern because the Bureau is not proposing any actions within this area in the West Mojave Plan; additionally, the focus of

the Bureau's management direction for this area of critical environmental concern is the conservation of wildlife, including particularly migratory songbirds.

As we noted previously in this document, the Service withdrew its proposal to list the mountain plover. The California red-legged frog and Mohave tui chub do not occur on lands managed by the Bureau. We published a final rule to remove the Hoover's wooly-star from the list of threatened and endangered species on October 7, 2003 (68 Federal Register 57829). Consequently, we will not discuss these species further in this document.

The triple-ribbed milk-vetch occurs on public lands in the planning area only within the Big Morongo Canyon Area of Critical Environmental Concern. The goal of this area of critical environmental concern is to protect the biological resources found in that area; consequently, little ground disturbance occurs within the area of critical environmental concern. Additionally, as part of the proposed action, the Bureau will require the proponents of any future action to avoid impacts to individuals and their habitat on public lands (section 2.2.4.10.22 in Bureau et al. 2005). For these reasons, the triple-ribbed milk-vetch will not be affected by implementation of the West Mojave Plan.

Finally, the endangered arroyo toad also occurs in the planning area, near Little Horsethief Creek, which eventually flows into the West Fork of the Mojave River; this area is located along the north slope of the San Bernardino Mountains. Although the Bureau did not address this species in its request for consultation, the final environmental impact report and statement notes that the multiple use classification of 1,814 acres of public land will be changed from unclassified to Class M. (Note that the final environmental impact report and statement also states that this change would affect lands designated as critical habitat for the arroyo toad; however, in a final rule dated April 13, 2005, the Service did not include these lands within the boundaries of critical habitat (70 *Federal Register* 19562).) We have addressed the potential effects of the California Desert Conservation Area Plan on the arroyo toad in a previous biological opinion (Service 2002b). The only proposed change in the West Mojave Plan from the management direction analyzed in that consultation is the change in multiple use classification. The former unclassified designation would have allowed the Bureau to dispose of this land for any purpose. Under the Class M designation, the Bureau will be able to offer these lands to a public agency, such as the California Department of Parks and Recreation, for a Recreational and Public Purposes lease; the lessee will then manage the lands for the conservation of the arroyo toad. Consequently, this proposed amendment of the California Desert Conservation Area Plan is not likely to adversely affect the arroyo toad.

For the various reasons cited in the preceding paragraphs, we will not consider any of the species discussed in this section further in this biological opinion.

Review of the Draft Biological Opinion

We provided a draft biological opinion for your review on August 16, 2005. We received your comments on the draft document by memorandum, dated November 4, 2005. We have incorporated your comments into this final biological opinion, as appropriate.

BIOLOGICAL OPINION

This biological opinion does not rely on the regulatory definition of "destruction or adverse modification of critical habitat" at 50 *Code of Federal Regulations* 402.02. Instead, we have relied upon the statutory provisions of the Act to complete the following analysis with respect to critical habitat.

Note that, during the development of this biological opinion, the Service requested clarification from the Bureau regarding several aspects of the proposed action in relation to the areas within and outside of desert wildlife management areas and critical habitat; we also conducted additional analyses using our GIS layers. Given the variations in data used in the various GIS layers and the numerous actions under consideration in this consultation, the resulting calculations occasionally presented variations in results; these variations may occasionally appear in this biological opinion. Although a few numbers may vary to some degree, the differences are minor and do not affect the basic outcome of any analysis.

DESCRIPTION OF THE PROPOSED ACTION

Purpose and Function of the California Desert Conservation Area Plan

Congress designated the California Desert Conservation Area under the authority of section 601(c) of the Federal Land Policy and Management Act of 1976. To provide for management of recreational use and to resolve other resource and public land use conflicts, the Federal Land Policy and Management Act also directed the Secretary of the Interior to "prepare and implement a comprehensive, long-range plan for management, use, development, and protection of the public lands within the California Desert Conservation Area." The purpose, as specified by Congress, was "to provide for the immediate and future protection and administration of the public lands in the California Desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality." The California Desert Conservation Area Plan was signed in January 1980 and now serves as the primary document that describes the basic management principles the Bureau uses for managing its portion of the California Desert Conservation Area. Since its adoption, the Bureau has completed 12 major amendments to the California Desert Conservation Area Plan.

The California Desert Conservation Area Plan employs three basic tools for managing resources in the California Desert Conservation Area. These tools are:

1. Four multiple-use classes are the basis of a land zoning system that allows for a variety of uses and resource conservation activities. Class C lands are those that have been formally designated as wilderness by Congress; it is also used for lands that are being recommended for wilderness designation. Lands within Class L (limited use) include areas that are managed to provide for lower density, carefully controlled multiple uses of resources while ensuring that sensitive values are not significantly diminished. Lands within Class M (moderate use) include areas that are managed to provide for a wide variety of present or future uses that include mining, livestock grazing, recreation,

energy, and utility development. The purpose of Class I (intensive use) lands is to provide for concentrated use of lands and resources to meet human needs (Bureau 1999).

2. The following twelve California Desert Conservation Area Plan elements provide detailed treatments and prescriptions addressing the management of different land uses and resources: cultural resources; Native American; wildlife; vegetation; wilderness; wild horse and burro; livestock grazing; recreation; motorized-vehicle access; geology, energy and mineral; energy production and utility corridors; and land-tenure adjustment.

3. The designation of special management areas, including, but not limited to special areas and areas of critical environmental concern, which require "special management attention … to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards."

The California Desert Conservation Area Plan (Bureau 1999) contains detailed descriptions of the multiple-use class guidelines and elements that the Bureau uses to direct its management of public lands in the California desert. Our previous biological opinions on the effects of the California Desert Conservation Area Plan, as amended and proposed for amendment, describe the effects that the implementation of these multiple-use class guidelines and elements may have on the listed species and their critical habitat in the California desert. These multiple-use class guidelines and elements do not describe specific, on-the-ground actions; with the exception of casual use, all future actions that the Bureau may propose under the program direction of the California Desert Conservation Area Plan are subject to the consultation requirements of section 7(a)(2) of the Act. Because we have analyzed the potential effects of these multiple-use class guidelines and elements in previous biological opinions and because these multiple-use class guidelines and elements would not change as a result of approval of the West Mojave Plan, we will not repeat these descriptions and analyses herein. Instead, we will focus our analysis on the changes in land uses that the Bureau has proposed as part of its plan amendments for the western Mojave Desert.

Alternative B of the West Mojave Plan

The Bureau requested consultation on alternative B, as described in the draft environmental impact report and statement (Bureau 2003c, Bureau et al. 2003). This alternative consists of the elements of alternative A that are applicable to and can be implemented on Bureau-administered lands. Under alternative A, non-federal entities within the planning area would apply for an incidental take permit, pursuant to section 10(a)(1)(B) of the Act, for activities that would occur without a Federal nexus; if the Service consequently issues an incidental take permit to local agencies, alternative A of the West Mojave Plan would be implemented. The Bureau issued the final environmental impact report and statement (Bureau et al. 2005) before we completed the biological opinion; consequently, where the final environmental impact report and statement differed from the draft document, we altered the proposed action described in this biological opinion to correspond to the Bureau's current proposal.

The essence of the Bureau's component (alternative B) of the West Mojave Plan is the adoption of an amendment to the California Desert Conservation Area Plan. (Note that the environmental impact report and statement describes the various actions the Bureau proposes to undertake as separate amendments; however, any changes to the California Desert Conservation Area Plan that result from the West Mojave Plan will be considered a single amendment to the California Desert Conservation Area Plan. We have maintained the discussion of the 11 amendments in this biological opinion to be consistent with the environmental impact report and statement.) We will describe the portions of these amendments that pertain to the species under consideration in this biological opinion in detail in the following sections; that is, if a species does not occur in an area that would be affected by the amendment, we will not discuss that species in relation to the amendment. The titles of the amendments are derived from Table 2-2 of the final environmental impact report and statement (Bureau et al. 2005).

Amendment 1, New Areas of Critical Environmental Concern. The Bureau will designate 14 new areas of critical environmental concern to conserve listed species, sensitive species, and areas that protect groups of species or important habitat. The new areas of critical environmental concern and the amount of land, in acres, currently managed by the Bureau in those areas that occur within areas that may be inhabited by the desert tortoise and listed carbonate plants are:

- Fremont-Kramer Desert Wildlife Management Area (1,023,329 – includes all four desert wildlife management areas)
- Superior-Cronese Desert Wildlife Management Area
- Ord-Rodman Desert Wildlife Management Area
- Pinto Mountain Desert Wildlife Management Area
- Bendire's Thrasher Conservation Area (28,046)
- Carbonate Endemic Plants Research Natural Area (4,393)
- Coolgardie Mesa Conservation Area (10,107)
- Mojave Monkeyflower Conservation Area (36,630)
- West Paradise Conservation Area (257)
- Parish's Phacelia Conservation Area (512)
- Pisgah Conservation Area (14,224)

The Coolgardie Mesa, West Paradise, and Parish's Phacelia conservation areas are located within the Superior-Cronese Desert Wildlife Management Area and the Superior-Cronese critical Habitat Unit of the desert tortoise. Desert tortoises likely occur in very low numbers within and immediately surrounding the Parish's Phacelia Conservation Area, which is centered around a series of small dry lakes. The primary constituent elements of critical habitat are not well represented in this conservation area because substrates are either high in clay content or rocky, portions of the area flood, and perennial vegetation is sparse or absent. Therefore, the management prescriptions associated with this conservation area are not likely to benefit the desert tortoise. The other two conservation areas support higher quality habitat and greater numbers of desert tortoises. Consequently, the management prescriptions for these areas, such as withdrawal from mineral entry, could benefit desert tortoises on a local basis. Because the effects of the management prescriptions for these conservation areas are entirely beneficial to the

desert tortoise and its critical habitat, we will not discuss these conservation areas further in this biological opinion.

We recognize that the Bureau has, in the final environmental impact report and statement, proposed establishment of the desert wildlife management areas and conservation areas as part of its amendments; until the Bureau signs a record of decision on the proposed amendment to the California Desert Conservation Area Plan, these areas will remain proposed. To simplify the writing of our biological opinion, we have not inserted the word "proposed" prior to each use of the phrases "desert wildlife management area" and "conservation area" in reference to the conservation areas being proposed by the Bureau as part of the West Mojave Plan.

The following description of special management areas, such as areas of critical environmental concern or research natural areas, is summarized from the California Desert Conservation Area Plan (Bureau 1999). Normally, after an area has been formally designated as a special management area, a site-specific activity plan is prepared that clearly identifies the ongoing management objectives for the area. The activity plans for the new special management areas, mentioned previously, are described in the final environmental impact report and statement and appendices.

Development, when wisely planned and properly managed, may occur in areas of critical environmental concern if the basic intent of protection of historic, cultural, scenic, or natural values is ensured. In the interests of certain wildlife and cultural resources, surface disturbances from mining, motorized-vehicle access, and grazing or other uses will be controlled. In some cases, fencing may be used to prevent unintentional impacts. Fencing may also be used to reduce or eliminate competition for water sources or forage to benefit particular species of wildlife. Some valuable wildlife resources may require assistance in the way of habitat restoration or enhancement. Directional signs and visitor use areas will be developed and designated to encourage visitor cooperation, and informational facilities and interpretive programs will be instituted to increase visitors' knowledge of and sensitivity to the need to protect important natural and cultural resource values. Consultation with the adjacent land owners will be conducted when management of an area of critical environmental concern conflicts with adjacent owners' land uses and requirements (Service).

Management prescriptions for areas of critical environmental concern may override the multiple-use class guidelines for the local area. The Bureau monitors existing conditions within an area of critical environmental concern to ensure that resource degradation is not occurring. Monitoring data will be used to guide corrective actions that may be necessary.

We have included detailed discussions only of the special management areas that occur within the ranges of the listed species under consideration in this biological opinion and provide conservation benefits to these species and their habitats. The environmental impact report and statement contains greater detail on and maps of the special management areas.

The desert wildlife management areas for the desert tortoise will be managed for the conservation and recovery of this species until it is delisted pursuant to the criteria described in

the recovery plan. Multiple use classes within the desert wildlife management areas will be changed to Class L. We described other changes in multiple use classes within desert tortoise habitat in the section of this biological opinion on amendment 3.

An important component of the Bureau's management of these desert wildlife management areas is the establishment of a one percent threshold for new ground disturbance for the 30-year life of the plan. New ground disturbance includes any clearing, excavating, grading or other manipulation of the terrain, whether or not a permanent use is proposed for the site. The final environmental impact report and statement notes that, if the Bureau exceeds its allowable ground disturbance, it may be required to conduct individual consultations, pursuant to section 7(a)(2) of the Act, for all future actions. In fact, although we will work with the Bureau to attempt to develop expedited means of conducting future consultations, the regulations that implement section 7(a)(2) of the Act and recent court cases clearly indicate that the Bureau will need to continue to consult on individual projects. If the Bureau exceeds its allowable ground disturbance, it may be required to re-initiate formal consultation, pursuant to section 7(a)(2) of the Act, on the California Desert Conservation Area Plan for the western Mojave Desert planning area, as required by 50 *Code of Federal Regulations* 402.16.

The Bureau will track the amount of new ground disturbance within each conservation area. (Many features of the West Mojave Plan apply to all conservation areas, although the specific names of these areas may vary (e.g., desert wildlife management area, conservation area, research natural area); therefore, in the preceding sentence, the concept of 'allowable ground disturbance' applies to all conservation areas and the specific amount of allowable ground disturbance for the desert tortoise desert wildlife management areas is 13,000 acres. Simply stated, all desert wildlife management areas are also conservation areas, but not all conservation areas are desert wildlife management areas.) The baseline acreage for the allowable ground disturbance will be adjusted if land transfers from one agency to another.

The Bureau will apply a mitigation fee to new ground-disturbing activities that may occur on its lands. The Bureau will require applicants for permits to compensate for all new land disturbance at the time the permit is issued. The fee would not be additive where multiple species exist on site or where conservation areas for species overlap. The fee would be based on the average value of an acre of land within the habitat conservation area. Within conservation areas, the compensation ratio will be 5:1; that is, for each acre of land disturbed, the project proponent would provide five times the average value of an acre of land. Outside of the conservation areas on lands delineated as disturbed habitat, the ratio will be 0.5:1. Within all other areas outside of the habitat conservation area, the ratio will be 1:1. Table 2-7 and Map 2-8 of the environmental impact report and statement display the criteria used to delineate disturbed habitat and areas where the three compensation ratios apply, respectively. Table 2-9 of the environmental impact report and statement describes minor exceptions to the requirement for compensation on the Bureau's lands. Grazing is not considered a new ground-disturbing activity.

The Bureau will manage compensation fees collected on its lands; it will maintain the fees in a special account established for the acquisition of mitigation lands within the habitat conservation area. Appendix C and section 2.2.4.1 of the environmental impact report and statement identify

priorities for the acquisition of land within the conservation areas. These funds could also be expended on other implementation measures established by the West Mojave Plan. Appendix C also lists these measures and provides an initial prioritization for their implementation.

Fire Management. The Bureau has not proposed any changes in the manner in which it manages fire in the western Mojave Desert. Because this element was evaluated in previous biological opinions on the California Desert Conservation Area Plan, we will not discuss this issue further in this document (Service 2003b [Parish's daisy and Cushenbury milk-vetch], 2002c [Lane Mountain milk-vetch], 2005c [desert tortoise]).

Land Acquisition within Habitat Conservation Areas. The Bureau will seek to maintain existing public lands in an unfragmented state and to acquire private land within conservation areas. The environmental impact report and statement describes the variables the Bureau will consider when attempting to acquire land. In some cases, conservation easements may be used as an alternative to acquisition. After acquisition of a parcel of private land, the Bureau will designate routes, monitor biological resources, and implement other appropriate management actions, pursuant to the provisions of the California Desert Conservation Area Plan. Lands that are acquired to promote the conservation of the species considered in the West Mojave Plan will not be opened to mineral entry. Because the acquisition of lands within a conservation area will not adversely affect desert tortoises, Lane Mountain milk-vetch, Parish's daisy, or Cushenbury milk-vetch or their designated critical habitat, we will not discuss it further in this biological opinion.

The Bureau will adopt a standard of no surface occupancy to prevent undue and unnecessary degradation of lands, under the surface mining regulations, within the Carbonate Endemic Plants Area of Critical Environmental Concern. Public lands within the Coolgardie and West Paradise conservation areas will be withdrawn from mineral entry, subject to valid existing rights.

In other areas, access for mining exploration, conducted in accordance with the General Mining Law of 1872, will be limited to public roads and designated open routes unless otherwise permitted under a plan of operations approved by the Bureau. Drilling to explore for minerals and the development of access routes to drill sites will be considered as temporary disturbances. If the access route is closed within 120 days of the beginning of surface-disturbing activities, all activities are appropriately monitored to minimize impacts as they occur, and any surface disturbance at the drill site is reclaimed, these activities would not be counted against the one percent allowable ground disturbance for the conservation areas.

Native Plant Harvesting. The harvesting of native plants will not be allowed within conservation areas. This prohibition does not include salvage of plants from ground-disturbing activities, collection of seeds or propagules for restoration, eradication of non-native weeds, or research. Outside of the conservation areas, plant harvesting will be regulated in accordance with the California Desert Native Plant Protection Act.

Recreation. No vehicle speed events will be allowed in the portions of the conservation area that lie within the desert wildlife management areas and the Mohave Ground Squirrel Conservation

Area. The Bureau will continue to implement the existing biological opinion on dual sport events, subject to the following guidelines:

1. Dual sport events would be allowed seasonally in desert wildlife management areas, including the Rand Mountains. Dual sport events will be allowed from November 1 to March 1 while most desert tortoises are inactive. Existing education materials will be supplemented to indicate that very young desert tortoises may be encountered during the fall and winter and should be avoided; this information will be provided to participants at the time of the event.

2. Dual sport events in those portions of the Mohave Ground Squirrel Conservation Area outside of the desert wildlife management area will be allowed from September through February only. The prescriptions described in the biological opinion for desert tortoises will apply.

3. Dual sport events outside of desert wildlife management areas and the Mohave Ground Squirrel Conservation Area would be allowed year-round. Within the Pisgah and Carbonate Endemic Plants areas of critical environmental concern, specific stipulations, to be developed at the time of event application, will apply.

4. The Bureau will revise its educational materials provided to dual sports participants to indicate that both adult, and particularly hatchling, desert tortoises may be active at Thanksgiving and riders should watch for and avoid such animals.

Because the Bureau will limit vehicle events to designated open routes, we do not anticipate that they will affect the listed plant species or their designated critical habitat being considered in this biological opinion. Consequently, we will not discuss this topic in relation to these species again in this biological opinion.

Minimum impact recreation (e.g., hiking, equestrian uses, bird watching, photography, etc.) would be allowed within the conservation areas.

Wildlife Water Sources. Existing springs, seeps, and artificial water sources (guzzlers, drinkers, tanks) would remain in place. Water sources at natural springs and seeps will not be diverted and native riparian vegetation will not be removed to create artificial water sources for wildlife. The Bureau, Service, California Department of Fish and Game, and non-profit organizations, such as Quail Unlimited, would be allowed access to the waters for maintenance and for removal of invasive vegetation, subject to existing restrictions (e.g., vehicle travel in wilderness areas). Retaining livestock water sources would be at the discretion of the grazing permittee.

These activities will not affect the listed plant species or designated critical habitat addressed in this biological opinion. We are unaware of any springs or guzzlers within the range of Lane Mountain milk-vetch. Springs and artificial waters are more likely to occur within the ranges of Parish's daisy and Cushenbury milk-vetch because of the terrain these species inhabit. However, the proposed management direction should not affect these species for several reasons. First,

these species do not occur in wetland or riparian areas and the Bureau's proposed management direction indicates that natural waters will not be diverted or its surrounding vegetation removed. Second, Dove Springs is the only water source in this area that has been developed for cattle. The area immediately adjacent to Dove Springs is already disturbed to a degree that the listed plant species are not present; additionally, the Bureau has fenced critical habitat of the carbonate species to exclude cattle. For these reasons, we will not discuss management direction with regard wildlife water sources and listed plant species again in this biological opinion.

Commercial Activities. Commercial activities, such as commercial filming that result in ground disturbance or adverse effects, are allowed in the desert wildlife management areas but only if the project proponent applies measures to avoid killing desert tortoises that are applicable to temporary construction impacts. The Bureau has not proposed any changes to its current management of filming activities; these measures are summarized in appendix C of the final environmental impact report and statement. In addition, the following measures will apply:

1. The Bureau will develop a brochure, to be provided to the proponent, showing the boundaries of the desert wildlife management areas and areas where higher densities of desert tortoises occur within the desert wildlife management areas that should be avoided, as far as possible.

2. Where filming activities may occur equally well on alternative sites, the Bureau will direct proponents to lands outside desert wildlife management areas. Within desert wildlife management areas, the Bureau will direct proponents to areas that support lower densities of desert tortoises.

3. Preplanning, including implementation of the preceding measures, will rely on the expertise of the Bureau's biologists to help the location manager choose sites where filming would have the least impact on desert tortoises.

Domestic Dogs. Dogs would be allowed off leash if they are accompanied by and under the control of their owners. Off-leash dogs will be prohibited in some situations (e.g., construction sites in desert wildlife management areas).

Highway Construction and Maintenance. The Bureau will encourage proponents who wish to construct new roads or railroads to locate them outside of desert wildlife management areas. The final environmental impact report and statement suggests that seasonal restrictions for maintenance activities may be appropriate; that is, on public lands, road work should be restricted to the period from November 1 through February 1. The final environmental impact report and statement also notes that roadbeds should not be lowered and berms should not exceed 12 inches in height or a slope of 30 degrees. Invasive weeds will not be used in landscaping within or adjacent to desert wildlife management areas. These measures are likely to protect desert tortoises, the listed plant species, and their habitats to some degree. We will not consider these measures further in this biological opinion, however, because they do not constitute specific management practices, in and of themselves. The degree to and manner in which they are implemented will be determined during the planning of specific projects.

Hunting and Shooting. Hunting is regulated by State law; the Bureau cannot regulate hunting. Consequently, we will not discuss this issue further in this biological opinion.

The shooting or discharge of firearms would generally be permitted on public lands except in specified areas (e.g., off-highway vehicle management areas), as long as State and local laws permit such activity. On public lands within desert wildlife management areas, the only firearm discharges allowed would be during hunting season in pursuit of game and target practice using retrievable targets, such as paper targets.

Utility Construction and Maintenance. The Bureau will review new linear utility projects within conservation areas at the time they are proposed. The Bureau will consider the following guidelines, which have been modified slightly from those contained in the draft environmental impact report and statement as a result of discussions with the Service during consultation:

1. To the degree possible, new utility right-of-ways in designated, active, and contingent corridors will be situated as close together as practical, given engineering specifications, human safety, and other limiting factors.

2. If at all possible, future utilities will be located in an alternative corridor rather than Corridor Q.

3. Within existing corridors, already disturbed areas will be used, if possible.

4. Pipelines within desert wildlife management areas will be revegetated after installation. Construction rights-of-way will be narrowed, to the degree possible, in all management areas.

5. In desert wildlife management areas, the effects of ground disturbance caused by projects will be restored in a manner that: (a) stabilizes soil surfaces control erosion by wind and water; (b) minimizes or eliminates future vehicle use in areas to be revegetated; (c) minimizes or eliminates future vehicle use of adjacent, undisturbed areas; (d) curtails the spread of exotic weeds; and (e) provides habitat for the target species.

6. The Bureau or its appointee will develop a standardized revegetation plan and apply it equitably throughout desert wildlife management areas. The revegetation plan will clearly state goals, methods based on the best available scientific information, and success criteria that are realistic for desert restoration. A technical advisory team of regulatory personnel, restoration experts, knowledgeable utilities personnel, and others will be assembled to devise and write guidelines for a standardized revegetation plan.

The measures proposed by the Bureau with regard to the construction and maintenance of utilities should generally function to reduce the adverse effects of these actions on the desert tortoise and its critical habitat. The specific measures to be used will be determined by the Bureau and other responsible agencies at the time specific actions are proposed. For this reason and because we have evaluated the general effects of the construction and maintenance of

utilities in the biological opinion for the California Desert Conservation Area Plan (Service 2005c), we will not discuss this issue further in this biological opinion. Note that the Service and Bureau have consulted on the operation and maintenance on a programmatic basis for several pipelines; these biological opinions will remain in effect unless specifically modified through re-initiation of formal consultation, pursuant to 50 *Code of Federal Regulations* 402.16.

No utility corridors are located within the occupied or critical habitat of the three listed plant species within the action area. Consequently, we will not discuss this portion of the West Mojave Plan in relation to these species again in this biological opinion.

Surveys for Desert Tortoises. Presence-absence surveys and clearance surveys will be required for all actions on all public lands within desert wildlife management areas. The former surveys are used to determine whether desert tortoises may be present at a project site; the latter are used to remove desert tortoises from areas where they may be killed or injured during implementation of a project. Outside of desert wildlife management areas, the Bureau will require only clearance surveys to be conducted.

Standard guidelines for handling (Desert Tortoise Council 1999) and disposing of (Berry 2003) desert tortoises will be implemented. We will not repeat the provisions of these protocols here because they have been reviewed previously by Service staff and have been in wide use for years.

Best Management Practices for Construction Projects. The final environmental impact report and statement contains descriptions of the measures that the Bureau and any project proponents it authorizes will undertake to reduce the adverse effects of construction activities on the desert tortoise and its habitat. In general, these measures reflect the current management strategy employed by the Bureau. Additionally, individual reviews of projects as they are proposed will allow for modification of these procedures, as necessary and appropriate. Consequently, we will not discuss these guidelines further in this biological opinion.

Disease. The environmental impact report and statement notes that "(i)ssues related to disease would be considered at the level of the interagency desert tortoise Management Oversight Group." The environmental impact report and statement also suggests a strategy to manage disease; however, the Bureau notes that "(i)mplementation of the [program to manage disease] would occur only after all other [desert] tortoise management programs established by [the West Mojave] Plan have been funded and implemented."

The strategy includes provisions for control of vectors, such as installing boundary fences between desert wildlife management areas and urban areas, developing procedures to quarantine areas if disease is detected, and using headstarting or other procedures to re-introduce desert tortoises into areas where they are extirpated. It includes an education component to alert the public about incompatible human activities in the desert and the problems with releasing captive desert tortoises into the wild. The strategy would include the establishment of an emergency trust fund for use during epidemics. It includes a proposal to develop captive colonies to maintain the genetic heterogeneity of desert tortoises in the Western Mojave Recovery Unit.

The strategy calls for promoting the health of desert tortoises by improving habitat conditions through reducing the amount of ground disturbance, removing sludge and biosolids from near critical habitat, and providing supplemental food and water under experimental conditions. Monitoring would be implemented to determine if dust from mines, agricultural fields, the edges of roads, and disturbed playas is affecting desert tortoises; the health status of desert tortoises would also be monitored. Finally, research would be conducted on the epidemiology of diseases encountered in desert tortoises, the relationship of toxicants and disease, headstarting, transmission of diseases, and other disease-related topics.

The management and control of diseases that may be affecting desert tortoises are critical issues that must be resolved if the recovery is to occur. We note that most of the elements of the strategy proposed by the Bureau are highly experimental in nature (e.g., developing procedures to quarantine areas if disease is detected), will require additional approvals to implement (e.g., any headstarting program will need authorization under section 10(a)(1)(A) of the Act), or are beneficial in terms of habitat management (e.g., reducing the amount of ground disturbance). Consequently, we will not analyze this strategy further in this biological opinion.

The Bureau will sign or otherwise designate the boundaries of desert wildlife management areas to identify them and facilitate enforcement. The signs would be placed in specific areas, as needed. This action will benefit the conservation of desert tortoises and management of critical habitat by providing information to the public; a slight possibility exists that desert tortoises or their critical habitat may be affected during placement of the signs; however, this possibility is insignificant because such adverse effects are easily avoided. Consequently, we will not discuss this issue further in this biological opinion.

Headstarting. The Bureau proposed to implement a headstarting program in areas where desert tortoises have apparently been extirpated or their numbers substantially reduced. Any headstarting program for desert tortoises will require separate approval from the Service under the appropriate authorities of the Act. At the time someone requests our authorization for such a program, the Service will also consult internally, pursuant to section 7(a)(2) of the Act, regarding the effects of our potential authorization. Consequently, although headstarting may, at some point, be a mechanism we use to attempt to recover the desert tortoise, we will not consider it further in this biological opinion.

Law Enforcement. The Bureau would attempt to ensure more law enforcement rangers and maintenance workers are in the field; it will also attempt to focus their efforts on the conservation of biological resources. However, the Bureau cannot commit to any specific level of implementation at this time. For this reason, we will not analyze this portion of the West Mojave Plan further in this biological opinion.

Predation by Common Ravens. The Bureau has proposed numerous actions that are designed to reduce predation on desert tortoises by common ravens. These measures include habitat modifications to reduce roosting and nesting opportunities on artificial structures, lethal control of problem individuals, and reducing the overall number of common ravens in selected areas.

Weed Abatement. The Bureau will cooperate with known specialists and organizations (including the Kern County Weed Management Agency, the Mojave Desert Resource Conservation District, and the California Exotic Pest Plant Council) to fund, coordinate, encourage, implement, and facilitate programs that contribute to the conservation of the desert tortoise and other listed species in the planning area. If successfully implemented, a program to control weeds would benefit the desert tortoise and improve the function of critical habitat by reducing the abundance of non-native species that are of little or no value and increasing the abundance of important forage plants. Future implementation of such a program, however, depends upon additional research, acquisition of funds and other factors; consequently, because the potential future actions have not been defined on any fundamental level, we will not discuss this issue further in this biological opinion.

Other Measures. The Bureau will require a study to determine if desert tortoises are being killed in quail guzzlers in the Western Mojave Recovery Unit. If the mortality level is considered unacceptable, a study would be designed to determine the best method of eliminating entrapment of desert tortoises while not impairing the function of the guzzler.

Amendment 2, New Boundaries of Existing Areas of Critical Environmental Concern. The boundary of the Afton Canyon Area of Critical Environmental Concern would be expanded by 3,840 acres and 480 acres would be deleted; the size of the expanded area of critical environmental concern will be 8,160 acres. The motorized vehicle access network of the California Desert Conservation Area Plan will be adopted as the network of vehicle access routes for the area of critical environmental concern. All lands within the expanded boundary will be withdrawn from mineral location and entry. These actions are likely to benefit the desert tortoise to some degree. The Afton Canyon Area of Critical Environmental Concern is located in the Cady Mountains. Desert tortoises occur in the Cady Mountains at very low densities. Increasing the size of the area in which the management guidelines for areas of critical environmental concern would be implemented and reducing the potential for ground disturbance and vehicular traffic related to minerals would promote the conservation of the few desert tortoises in this area. The Afton Canyon Area of Critical Environmental Concern is not within critical habitat of the desert tortoise. Consequently, this proposal will not affect critical habitat of the desert tortoise.

The Western Rand Area of Critical Environmental Concern will be expanded by 13,120 acres. This action should benefit the desert tortoise and promote the conservation role and function of the Fremont-Kramer Critical Habitat Unit by increasing the size of the area in which the management guidelines for areas of critical environmental concern would be implemented. Maintenance of desert tortoises in this area of the western Mojave Desert is crucial because it provides a link between the Desert Tortoise Natural Area, which is managed primarily for the conservation of the species, and the remainder of the Fremont-Kramer Desert Wildlife Management Area; if desert tortoises cannot persist in the Western Rand Area of Critical Environmental Concern, the Fremont-Kramer Desert Wildlife Management Area would essentially be split into eastern and western components.

The effects of expanding the Afton Canyon and Western Rand areas of critical environmental concern on the desert tortoise (and its critical habitat, in the latter case) are entirely beneficial. Consequently, we will not discuss these actions again in this document.

Changes in the boundaries of the Barstow Woolly Sunflower and Harper Dry Lake areas of critical environmental concern would not affect listed species. These areas of critical environmental concern overlap only the range of the desert tortoise. The Barstow Woolly Sunflower Area of Critical Environmental Concern is completely included within desert wildlife management areas for the desert tortoise; therefore, its management would not alter that of the desert tortoise. The Harper Dry Lake Area of Critical Environmental Concern is located entirely within Harper Dry Lake, which does not normally provide habitat for desert tortoises. Consequently, we will not discuss these areas of critical environmental concern again in this document.

Amendment 3, Changes in Multiple-use Class Designations. The specific changes resulting from this amendment are as follows. We have included only those changes in multiple-use class that may affect listed species under consideration in this biological opinion.

Afton Canyon Area of Critical Environmental Concern. The multiple-use class designations will be changed from M to L on certain lands within the expanded area of critical environmental concern.

Bendire's Thrasher Area of Critical Environmental Concern. The Bureau will change the multiple-use class designations from M to L on 9,809 acres in the northern Lucerne Valley.

Carbonate Endemic Plants Area of Critical Environmental Concern. The Bureau will change the multiple-use class designations from M to L on 4,393 acres on the north slope of the San Bernardino Mountains.

Desert Tortoise Desert Wildlife Management Areas. The Bureau will change the multiple-use class designations from M to L on 365,485 acres and from U to L on 34,566 acres within the boundaries of the desert wildlife management areas.

Disposal Parcels in Inyo County. The Bureau will change the multiple-use class designations from M and L to unclassified on 6,828 acres in southern Inyo County. This area is partially within the range of the desert tortoise but outside of any desert wildlife management area.

West Mojave Land Tenure Adjustment Program. Under this program, the Bureau designated consolidation zones where it would attempt to acquire private lands and retain public lands, retention zones where it would retain public lands, and disposal zones where it would dispose of public lands. The Environmental Baseline for the Desert Tortoise and its Critical Habitat - Previous Consultations section of this biological opinion contains a more detailed discussion of the history and status of this program. As part of the West Mojave Plan, the Bureau will change the multiple-use class designation of unclassified lands within the current disposal zone that are adjacent to the existing retention zone to Class L. The primary areas where this measure would

affect desert tortoises are in the area around the junction of Highway 58 and Harper Lake Road, where the Bureau added approximately 12,503 acres to the retention area, and north of the El Mirage Off-highway Vehicle Management Area, where approximately 8,502 acres were added. Because the effects of this proposed action are beneficial to the desert tortoise and its critical habitat, we will not analyze this action further in this biological opinion.

Note that the adjustment to the West Mojave Land Tenure Adjustment Program contained in the West Mojave Plan constitutes a re-initiation of the consultation on the original program. By memorandum dated June 29, 1990, the Bureau indicated it would not acquire lands in the easternmost portion of the consolidation zone until a decision had been reached regarding the proposed expansion of the Department of the Army's Fort Irwin. The original biological opinion on the West Mojave Land Tenure Adjustment Program states that, should the expansion of Fort Irwin occur in this area, the Bureau would not be able to complete the land tenure adjustment project, as proposed, and that re-initiation of formal consultation would be required (Service 1990). Through Public Law 107-107, approximately 118,600 acres were added to Fort Irwin along its southwestern and eastern boundaries in 2002. Consequently, this biological opinion constitutes our revised biological opinion for the West Mojave Land Tenure Adjustment Program; it supercedes previous biological opinions (Service 1990, 1998) on the land tenure adjustment program in the western Mojave Desert.

Little San Bernardino Mountains Gilia Habitat. The Bureau will change the multiple-use class designations from unclassified to M on 1,922 acres adjacent to Joshua Tree National Park.

Mojave Fishhook Cactus Area of Critical Environmental Concern. The Bureau will change the multiple-use class designations from unclassified to L on 628 acres south of Helendale.

Mojave Monkeyflower Area of Critical Environmental Concern. The Bureau will change the multiple-use class designations from unclassified and I to L on 10,633 acres in Brisbane Valley.

Mohave Ground Squirrel Conservation Area. The Bureau will change the multiple-use class designations from Class I to Class L on 5,391 acres east of Searles Dry Lake.

Non-Wilderness Class C. The Bureau must reclassify any lands that were not designated as wilderness through the California Desert Protection Act. Several of the parcels for which the Bureau proposes to change the multiple-use class do not support habitat of the desert tortoise and are not discussed herein. Four parcels may support desert tortoises (LaPre 2004b).

Near the Rodman Mountains Wilderness, small strips of land, totaling 242 acres, on the boundaries of the wilderness and the Red Top Cinder Mine "cherrystem" would be changed from multiple-use class C to L; this area is within the Ord-Rodman Critical Habitat Unit and Desert Wildlife Management Area. An additional 240 acres at the mine site, which has been disturbed by previous mining activities and is higher than 4,000 feet in elevation, would be changed from multiple-use class C to M; this area was excluded from the desert wildlife management area but is within the critical habitat unit.

The Bureau would change the multiple-use class from C to L on 219 acres near the Newberry Mountains Wilderness. The Bureau also proposes to change 50 acres from multiple-use class C to M. Both areas are almost entirely within the Ord-Rodman Desert Wildlife Management Area and Critical Habitat Unit.

The Bureau proposes to change the multiple-use class designation from C to L on 52 acres near the Golden Valley Wilderness, from C to M on 501 acres, and from C to I on 105. All of these are out of the Fremont-Kramer Desert Wildlife Management Area and Critical Habitat Unit. These areas may contain habitat for the desert tortoise and low numbers of animals.

Near the El Paso Mountains Wilderness, the Bureau proposes to change the multiple-use class designation from C to L on 362 acres. This area is not located within a desert wildlife management area or critical habitat unit. As in the case of Golden Valley, the area may support desert tortoises and their habitat.

Pisgah Area of Critical Environmental Concern. The Bureau will change the multiple-use class designations from M to L on 14,224 acres generally north of the Marines Corps Air Ground Combat Center.

Western Rand Area of Critical Environmental Concern. The Bureau will change the multiple-use class designation from Class M to L on 13,120 acres in the area between State Highway 395 on the east and the existing area of critical environmental concern on the west.

Amendment 4, Designation of the Mohave Ground Squirrel Conservation Area. The Bureau will establish a 1,308,877-acre conservation area for the Mohave ground squirrel (*Spermophilus mohavensis*). This area overlaps, to some degree, the Fremont-Kramer and Superior-Cronese critical habitat units of the desert tortoise. The conservation area also extends beyond the desert wildlife management areas to the north and west. This area will be managed under many of the same provisions that will apply in the desert wildlife management areas.

Amendment 5, Implementation of the Rand Mountains – Fremont Valley Management Plan. The Bureau will amend the California Desert Conservation Area Plan to implement the Rand Mountains – Fremont Valley Management Plan that was drafted in 1994. The changes to current management include expansion of the Western Rand Area Of Critical Environmental Concern by 13,120 acres, designation of the lands in the expanded area of critical environmental concern as Class L, the closure of the entire management area to off-highway vehicle use except for 129 miles of designated open routes, and categorization of a portion of the Rand Mountains - Fremont Valley Management Area as Category I habitat for the desert tortoise. The Bureau would also withdraw 32,590 acres within the Rand Mountains - Fremont Valley Management Area from mineral location and entry. The 6,090-acre Koehn Lake and an additional 8,320 acres within the management area would remain as Class I and open to mineral entry.

The Bureau has also proposed to require visitors to obtain a permit if they wish to use vehicles in the Rand Mountains. To obtain a permit, visitors would be required to complete a short

educational program and, once this is accomplished, could purchase a permit. The goal would be to increase compliance with applicable rules and regulations.

The Bureau's request for consultation on the proposed amendment of the California Desert Conservation Area Plan in this planning area also serves as re-initiation of formal consultation regarding the implementation of the Rand Mountains – Fremont Valley Management Plan. The Service and Bureau previously consulted on this management plan (Service 1992c, 1993a). This biological opinion also addresses the effects of the implementation of the management plan on the critical habitat of the desert tortoise.

Amendment 6, Afton Canyon Natural Area. We will discuss the adoption of an access network for routes as part of our analysis of Amendment 2. Therefore, we will not discuss Amendment 6 again in this biological opinion.

Amendment 7, West Mojave Land Tenure Adjustment Program. We will discuss proposed changes in the West Mojave Land Tenure Adjustment Program as part of our analysis of Amendment 3. Therefore, we will not discuss Amendment 7 again in this biological opinion.

Amendment 8, Adoption of Standards and Guidelines for Management of Grazing.

Standards and Guidelines. The Bureau will use regional standards and guidelines for public land health, the California Desert Conservation Area Plan, allotment management plans, and terms and conditions from existing biological opinions to manage livestock grazing. The standards express the level of physical and biological condition or degree of function required for healthy, sustainable public lands; the guidelines for grazing management are the types of activities and practices determined to be appropriate to ensure that the standards can be met or that substantial progress can be made towards meeting them. Section 2.2.5 of the final environmental impact statement (Bureau et al. 2005) contains a more complete discussion of standards and guidelines and how they relate to management of livestock. A standard is an expression of the level or physical and biological condition or degree of function required for healthy, sustainable rangelands. Guidelines are types of grazing management activities and practices determined to be appropriate to ensure that the standards can be met or significant progress can be made toward meeting them.

The standards for the West Mojave Plan include the management of substrates, native species, the function of riparian areas and wetlands, and water quality; the function of riparian areas and wetlands and water quality are not relevant to the desert tortoise or its critical habitat so we will not discuss them further in this biological opinion. Substrates should have infiltration rates and permeability rates that are appropriate for substrate type, climate, geology, land form, and past uses; the Bureau uses canopy and ground cover, the diversity of plant species, the amount of litter and organic matter, microbiotic soil crusts, evidence of wind or water erosion, and other factors to indicate whether the standards for substrates are being met. To determine whether standards for native species are being met, the Bureau evaluates photosynthetic and ecological processes, plant vigor, nutrient cycles, the production of litter, age class distribution of plants and animals, distribution and cover of plant species, and other factors. The guidelines for grazing

management are intended to maintain existing conditions, if the standards are being met, or to set management on a course toward improving conditions so that the standards can be met.

These standards and guidelines are generally compatible with the management of critical habitat of the desert tortoise because the standards provide descriptions for the physical and biological functioning that is appropriate for any given area of range and the guidelines establish management practices for grazing that either maintain habitat in good condition or seek to improve habitat quality where it is not functioning properly. Because the regional standards of public land health and guidelines for grazing management are designed to ensure the maintenance of high quality habitat or to improve the condition of habitat that is not functioning properly, we conclude that their implementation is not likely to adversely affect the desert tortoise or its critical habitat; consequently, we will not discuss them again in this biological opinion.

Only the Rattlesnake Canyon Allotment occurs within or near habitat occupied by the carbonate plants; Cushenbury milk-vetch does not occur in areas that are grazed (Bureau 2001). Additionally, the Bureau has constructed a boundary fence on the Rattlesnake Canyon Allotment to exclude from grazing from all areas occupied by Parish's daisy. As proposed by the Bureau, no livestock allotments overlap areas inhabited by the Lane Mountain milk-vetch. Consequently, Lane Mountain milk-vetch, Cushenbury milk-vetch, and Parish's daisy and the critical habitat of the latter two species are not likely to be adversely affected by livestock grazing; we will not discuss this activity further in this document.

Measures Regarding Specific Cattle Allotments. The Lacey-Cactus-McCloud Allotment boundary will be modified to exclude those portions that occur on the Naval Air Weapons Station, China Lake. Only the portion of the Lacey-Cactus-McCloud Allotment that was located within the Naval Air Weapons Station supported desert tortoises; because this portion of the allotment has been cancelled, desert tortoises will no longer be affected by grazing within this allotment. Therefore, we will not discuss the Lacey-Cactus-McCloud Allotment substantially again in this biological opinion.

The Valley Well Allotment occupies 524 acres east of Highway 247; it is authorized for 24 animal unit months and has been grazed 5 of the last 10 years. The Bureau's biologist recommended that it not be included in the Ord-Rodman Desert Wildlife Management Area because of its proximity to the base property of the rancher and its degraded condition (Chavez 2004). This allotment is within the boundaries of the Ord-Rodman Critical Habitat Unit. Because of the small size of the allotment, its degraded condition, and location adjacent to the heavily used Highway 247 and other human disturbances, we do not consider that it supports the primary constituent elements of critical habitat and will not discuss it further in this biological opinion.

Cattle Grazing within Desert Tortoise Habitat. The following prescriptions for management of livestock grazing will be implemented for all cattle allotments managed by the Bureau in the planning area that occur in desert tortoise habitat. The table in this general section of the biological opinion lists the relevant allotments. We note that the Bureau also states (page 2-126

of Bureau et al. 2005) that it will continue to ensure compliance with the terms and conditions of previous biological opinions that addressed grazing in the California Desert Conservation Area; we will not analyze the measures contained in those biological opinions further in this document.

All cattle carcasses found within 300 feet of a road or watering source will be removed and disposed of in an appropriate manner (i.e., not buried) within 2 days of being found or, if this is not practicable, such reasonable time as is acceptable to the Bureau's authorized officer. If the carcass is in a wilderness area or if it requires cross-country travel by a vehicle, the operator must obtain authorization from the Bureau prior to conducting this activity. Carcasses that are located more than 300 feet from a road or watering source will not be removed unless the Bureau determines they pose a health or safety hazard (Bureau 2005c).

New cattle guards will be designed and installed to prevent entrapment of desert tortoises. All existing cattle guards within suitable habitat will be modified within 3 years of adoption of the West Mojave Plan to prevent entrapment of desert tortoises.

Any hazards to desert tortoises that may be created, such as auger holes and trenches, will be eliminated before the rancher, contractor, or work crew leaves the site. This measure would serve to protect desert tortoises by reducing the likelihood that they would become trapped in hazards that are created during work on range improvements. Because it would be implemented as part of future specific actions that would undergo separate review by the Bureau and Service, we will not discuss it further in this biological opinion.

Grazing use will continue until a lessee voluntarily relinquishes all grazing use.

Cattle Grazing within Desert Wildlife Management Areas. The grazing prescriptions in this section will be implemented for all cattle allotments managed by the Bureau in the planning area that occur in desert wildlife management areas. The Cronese Lake, Harper Lake, Ord Mountain, and Pilot Knob allotments occur within desert wildlife management areas.

No ephemeral authorizations would occur in desert wildlife management areas. Allotments currently capable of authorizing ephemeral and perennial forage for cattle use will be designated for perennial forage use only. Therefore, the Pilot Knob Allotment would no longer be available for cattle grazing and all ephemeral production would be available for the conservation of the desert tortoise. Authorizations related to grazing activities (e.g., range improvements) on the Pilot Knob Allotment would be cancelled and the allotment designation would be removed from the California Desert Conservation Area Plan.

The Bureau will prohibit issuance of temporary non-renewable grazing permits in desert wildlife management areas for all lands below an elevation of 4,000 feet.

When ephemeral forage production is less than 230 pounds per acre, cattle will be substantially removed from portions of the allotment within the desert wildlife management areas referred to as "designated exclusion areas" (see Map 2-13 from the final environmental impact report and statement, Bureau et al. 2005) from March 15 to June 15. The designated exclusion areas

correspond to critical habitat of the desert tortoise. The term "substantially removed" recognizes that a few cattle might wander into the designated exclusion areas despite the operator's best efforts and regardless of management facilities (e.g., fences, water sources) that are in place.

Cattle may remain past March 15 if ephemeral forage production is likely to surpass 230 pounds per acre. If this level of forage is not attained when weather conditions (e.g., warming of the soil) are appropriate, cattle must be substantially removed from designated exclusion areas until such time as 230 pounds per acre ephemeral forage is achieved or June 15, whichever is earlier. If cattle must be removed, the operator would be given 2 weeks to remove them from the designated exclusion area.

The Ord Mountain Allotment Management Plan will be revised after adoption of the West Mojave Plan. As part of the implementation of the revised allotment management plan, based upon available funding, range fences would be installed in two places to exclude cattle from areas of high concentration of desert tortoises along the southern boundary of the allotment, west of the Cinnamon Hills, and along the eastern boundary of the allotment, in the vicinity of Box Canyon. Excluding cattle from areas where desert tortoises occur in higher concentrations would be beneficial because the effects on individuals and on the primary constituent elements would be eliminated. Because the allotment management plan has not been developed to date, we will not analyze this proposed action further in this biological opinion. The Bureau and Service will consult on the allotment management plan, under the auspices of section 7(a)(2) of the Act, when appropriate.

Cattle Grazing outside of Desert Wildlife Management Areas. In all cattle allotments occurring in desert tortoise habitat outside of desert wildlife management areas, ephemeral authorization will only be granted when ephemeral production exceeds 230 pounds per acre.

Measures Regarding Specific Sheep Allotments. The Goldstone Allotment is located on lands that Congress transferred from the Bureau to the Army, in support of the expansion of Fort Irwin. Therefore, the Goldstone Allotment will no longer be grazed. Because this allotment is no longer within the action area of this consultation, we will not discuss it further in this biological opinion.

Grazing use in the Cantil Common, Bissell, Boron, Monolith-Cantil, Buckhorn Canyon, Spangler, Stoddard Mountain, Lava Mountains, and Rudnick Common allotments will continue until the lessee voluntarily relinquishes the grazing lease.

Sheep Grazing within Desert Tortoise Habitat. The following prescriptions for management of livestock grazing will be implemented for all sheep allotments managed by the Bureau in the planning area that occur in desert tortoise habitat. The table in this general section of the biological opinion lists the relevant allotments. We note that the Bureau also states (page 2-130 of Bureau et al. 2005) that it will continue to ensure compliance with the terms and conditions of the 1994 biological opinion (Service 1994d) regarding the grazing of sheep in the California Desert Conservation Area; we will not analyze the measures contained in that biological opinion further in this document.

Turnout of sheep in all allotments will not occur until 230 pounds per acre of ephemeral forage are available. The lessee will be required to remove sheep from the area or the entire allotment if production falls below 230 pounds per acre. This prescription is not applicable to those allotments that authorize sheep use of perennial forage.

Following the removal of lambs, multiple bands of sheep are typically combined. At this time, no more than 1,600 adult sheep will be allowed in a combined band.

Sheep Grazing within the Mohave Ground Squirrel and Mojave Monkeyflower Conservation Areas. The prescriptions in this section will be implemented on sheep allotments located within the Mohave Ground Squirrel and the Mojave Monkeyflower conservation areas. Unless otherwise noted, all prescriptions listed in the previous section for sheep allotments will also be implemented in these areas. The Cantil Common, Gravel Hills, Hansen Common, Lava Mountains, Monolith-Cantil, Rudnick Common, Shadow Mountain, Spangler Hills, and West and Middle Stoddard Mountain allotments will be affected by these prescriptions.

To avoid competition between sheep and the Mohave ground squirrel once the ephemeral forage is no longer available and both species are relying on perennial forage, all sheep will be removed from the Mohave Ground Squirrel Conservation Area when ephemeral plants are no longer the primary forage being used by sheep.

The Bureau will use winterfat (*Krascheninnikovia lanata*), spiny hopsage (*Grayia spinosa*), four-winged saltbush (*Atriplex canescens*), shadscale (*A. confertifolia*), and allscale (*A. polycarpa*), which have been identified as important to the foraging ecology of the Mohave ground squirrel, as key species. The maximum utilization levels for sheep grazing in the Mohave Ground Squirrel Conservation Area will be 30 percent for winterfat and 25 percent for the other species; sheep will be removed from the entire or specific portions allotment when these levels are reached.

To facilitate adaptive management, if future research shows that key species different from those in the previous paragraph are important to the Mohave ground squirrel, those species will be added to the monitoring program. Similarly, if a species identified in the previous paragraph is not considered important to the Mohave ground squirrel in another part of its range, that species may be dropped from the list.

Sheep grazing will be prohibited from the Middle Stoddard Mountain Allotment where it coincides with the Mojave Monkeyflower Conservation Area in Brisbane Valley. The Bureau will work with the lessee to clearly identify Mohave monkeyflower habitat to be avoided.

Sheep Grazing within Desert Wildlife Management Areas. These measures will be in effect within 2 years of adoption of the West Mojave Plan. The Gravel Hills and Superior Valley allotments, which are located entirely within desert wildlife management areas, will no longer be available for sheep grazing.

The boundaries of the Buckhorn Canyon, Lava Mountains, Monolith-Cantil, and East and West Stoddard Mountain allotments will be modified so that areas within desert wildlife management areas will no longer be available for sheep grazing. Consistent with the 1994 biological opinion, small portions of the Shadow Mountains and Cantil Common allotments would continue to be grazed (see map 2-14 of Bureau et al. 2005) within desert wildlife management areas. On the Shadow Mountain Allotment, 600 acres of public land that are within the Fremont-Kramer Critical Habitat Unit would be grazed (Chavez 2005a). On the Cantil Common Allotment, approximately 6,196 acres of critical habitat on public lands, also within the Fremont-Kramer Critical Habitat Unit, would be grazed (Chavez 2005b). In both of these cases, the Bureau will use roads to define manageable boundaries of grazed areas, rather than relying on the boundaries contained in the final rule for the designation of critical habitat of the desert tortoise; in many cases, the boundaries of critical habitat were drawn on section lines, which cannot be detected on the ground.

Sheep grazing use would be authorized in the Shadow Mountains and Cantil-Common allotments where they overlap desert wildlife management areas under the following conditions. Turnout of sheep will not occur until 350 pounds per acre of ephemeral forage are available. The lessee will be required to remove sheep from an area of the allotment if ephemeral forage production falls below 350 pounds per acre. The last day of sheep use will be June 1. Watering and loading and unloading will occur at established previously disturbed sites. The conditions summarized in Appendix O of the final environmental impact report and statement (Bureau et al. 2005) would also apply.

Voluntary Relinquishment of Cattle and Sheep Allotments. The California Desert Conservation Area Plan does not currently provide for voluntary relinquishment of cattle and sheep allotments, but it would be amended to allow for this action. Voluntary relinquishment of a grazing permit or lease, combined with a decision in the West Mojave Plan designating selected public lands as not available for livestock grazing, is an important method for achieving conservation goals for desert tortoise and other sensitive species. By itself, voluntary relinquishment has no effect on whether an allotment may be grazed. The Bureau may transfer the forage made available as a result of the relinquishment to a new permittee or lessee if grazing is an allowable use under the existing land use plan. Any qualified applicant can apply for the available forage. When combined with a land use planning decision designating public lands as not available for livestock grazing, voluntary relinquishment can result in long-term reduction or elimination of grazing on public lands. Land use planning decisions are not irreversible, however, and a decision to designate lands as available or not available for livestock grazing can be changed through a subsequent plan amendment or revision.

Upon approval of the West Mojave Plan, allotments identified for voluntary relinquishment would continue to be available for livestock grazing under the terms and conditions of the plan until a permittee or lessee submits a written request for voluntary relinquishment, the Bureau and the permittee or lessee agree on a timeframe, and the Bureau complies with all statutory requirements including issuance of a grazing decision in accordance with 43 *Code of Federal Regulations* 4160.1 based on site-specific environmental review, consultation with affected

parties, and such other procedures as may be required by statute or regulation. A grazing decision can be appealed to the Interior Board of Land Appeals.

The Bureau has been contacted by third parties who have expressed an interest in acquiring the grazing preference and permit/lease in the west Mojave Desert planning area for purposes other than livestock grazing. Private parties may use a variety of financial arrangements and sale contracts to acquire ranches and transfer the associated grazing permit. The Bureau is not a party to these private agreements. Although the Bureau may acknowledge an agreement during the planning process in connection with a voluntary request for relinquishment, the Bureau conducts its own analysis and makes its own independent decision about devoting public rangelands to a use other than livestock grazing.

The Bureau's decision whether to identify an allotment for voluntary relinquishment and subsequent designation of the public lands as not available for grazing is based on criteria set forth in the its Land Use Planning Handbook, H-1790-1, Appendix C. A separate plan amendment or revision will not be required where voluntary relinquishment is identified as a management action for an allotment. In the planning area, the Cady Mountain, Cronese Lake, Harper Lake, Ord Mountain, Pilot Knob, Bissell, Boron, Buckhorn Canyon, Cantil Common, Lava Mountains, Monolith-Cantil, Shadow Mountains, Spangler Hills, East Stoddard Mountain, Middle Stoddard Mountain, West Stoddard Mountain, and Rudnick Common allotments may potentially be relinquished.

Grazing use would continue until the lessee voluntarily relinquishes its grazing preference and lease. Upon relinquishment, the Bureau would, without further analysis or notice: not reissue the lease; remove the allotment designation; assume any and all private interest in range improvements located on public land; and designate the land within the allotment as no longer available for livestock grazing.

Voluntary relinquishment would only occur where the action would ultimately result in direct conservation benefits for special-status plant and animal species covered by the West Mojave Plan. Table 2-20 of the final environmental impact report and statement lists the grazing allotments that may be relinquished and species that would benefit from this action. (Note that the habitat conservation plan in development for the western Mojave Desert includes numerous sensitive species that are not subject to the consultation requirements of section 7(a)(2) of the Act.)

Allotments identified as "Common" (e.g., Rudnick Common) are so-named because multiple lessees have grazing rights on those allotments; several of them are identified for both cattle and sheep grazing. Lessees may request voluntary relinquishment of the portion of common allotments they are permitted to graze where use areas have been identified through an allotment management plan or where management areas or pastures have been assigned by the Bureau in accordance with 43 *Code of Federal Regulations* 4110.2-4. Where common allotments are not divided into use areas, voluntary relinquishment must be requested by all lessees permitted to graze the allotment.

Amendment 9, Public Land Vehicle Access Network. The Bureau, through the West Mojave Plan, will designate routes on public lands that it manages as open, closed to motorized vehicle access, or open on a limited basis. The designation process included an extensive revision of the route network within critical habitat of the desert tortoise, the design of a route network compatible with sensitive resources in specific areas, and retention of existing route networks in specific areas, such as portions of the networks designated in 1985 and 1987, and within existing areas of critical environmental concern, the Rand Mountains - Fremont Valley Management Area, and the Ord Mountain pilot program area.

Because of court-ordered deadlines, the Bureau signed a decision record in June 2003 regarding the adoption of a motorized vehicle access network in the western Mojave Desert; the Service issued a biological opinion on the proposed network on June 30, 2003 (Service 2003a). That decision record amended the California Desert Conservation Area Plan to adopt the network. However, because the motorized vehicle access network is also a component of the West Mojave Plan's conservation strategy, the analysis presented in the environmental assessment for route designation was included in the draft environmental impact report and statement for this amendment of the California Desert Conservation Area Plan. Consequently, the Bureau accepted comments regarding suggested modifications of the network during the public review of the draft environmental impact report and statement. The record of decision for the California Desert Conservation Area Plan amendment regarding the West Mojave Plan will incorporate the route network that was approved in June 2003, as modified during completion of the West Mojave Plan. The final environmental impact report and statement contains a full discussion of the history of route designation and the methods and criteria used to develop the currently proposed network. Adoption of the California Desert Conservation Area Plan amendment for the western Mojave Desert will result in a route network that consists of 5,433.4 miles of open routes and 30.6 miles of limited routes within habitat of the desert tortoise (LaPre 2005e and 2005h, respectively).

The Bureau will retain approximately 20 miles of the competition route network located to the northeast of the Spangler Hills Off-highway Vehicle Management Area. Approximately 10 miles of new open routes adjacent to the southern boundary of the Spangler Hills Off-highway Vehicle Management Area would be provided to provide touring loops and access connections. In total, approximately 15 miles of new open routes would be designated and 20 miles of open routes would be designated as competition routes. To offset the opening of new routes, approximately 35 miles of currently open routes within the Fremont-Kramer Desert Wildlife Management Area will be closed.

In a biological opinion, dated June 30, 2003, we concluded that the proposed designation of routes of travel in the western Mojave Desert was not likely to jeopardize the continued existence of Lane Mountain milk-vetch (Service 2003a). The Bureau proposed closure of an additional 12 routes and designated 2 routes as open on a limited basis within the West Paradise and Coolgardie conservation areas, but did not quantify the length of these routes (see Appendix R and Chapter 6 [response 182-26] of the final environmental impact report and statement). These reductions in the extent of the route network within the area occupied by Lane Mountain milk-vetch should be protective of this species and its habitat by reducing the potential for

unauthorized use of the area. Consequently, we will not include additional discussion of this proposal with regard to the listed plant species and their critical habitat in this biological opinion. We note, however, that unauthorized off-road vehicle use continues to threaten Lane Mountain milk-vetch in the southern portion of Coolgardie Mesa; we will provide additional detail on this issue in the Environmental Baseline - Status of the Lane Mountain Milk-vetch in the Action Area section of this biological opinion.

Measures to Avoid Adverse Effects. Routes designated as open would be available for commercial, recreational, casual access, permitted non-competitive, and other uses. Motorized vehicles will not be allowed to travel off of designated routes, except in emergency situations or with the explicit permission of the Bureau. The current law regarding speed limits on unimproved roads will apply. Basic Speed Law (38305) of the 2001 Vehicle Code, Traffic Laws states: "no person would drive an off-highway motor vehicle at a speed limit greater than is reasonable or prudent and in no event at a speed which endangers the safety of other persons and property." If monitoring or studies show that certain unimproved roads are causing increased mortality of desert tortoises, the Bureau will consider ways, including speed regulators, to reduce or avoid the level of mortality. On public lands, motorized vehicle travel in washes will be allowed only in those washes that are designated as "open routes" and signed as appropriate.

The final environmental impact statement notes that various groups volunteer to organize and complete projects such as the removal of trash and debris on desert lands, the installation of signs, fencing, barriers, and routine maintenance activities. To eliminate the need for separate documents to comply with the National Environmental Policy Act for each project, the Bureau proposed to conduct these actions under a set of standard programmatic stipulations. We note that desert tortoises and their habitat can benefit from actions such as the removal of trash and debris on desert lands, the installation of signs, fencing, and barriers; however, these actions also pose some threat because desert tortoises may be killed during implementation of these projects. We also note that the Bureau did not include standard programmatic stipulations in the final environmental impact statement. Consequently, although we agree that many of these projects may benefit the desert tortoise and its critical habitat, we will not discuss them further in this biological opinion; additional consultation, pursuant to section 7(a)(2) of the Act, may be required if the Bureau determines that these actions may affect the desert tortoise or its critical habitat.

We have previously concurred with your determination that the proposed route designation in the western Mojave Desert was not likely to adversely affect the Cushenbury milk-vetch and Parish's daisy or their designated critical habitat because of the relatively limited occurrences of the listed carbonate plants on Bureau lands, the relatively limited number of open routes, and the steep terrain that generally reduces the level of unauthorized off-road use (Service 2003a). The final environmental impact report and statement does not include any changes to the route network within habitat of the carbonate plants. Consequently, we will not discuss these species further with regard to route designation in this biological opinion.

Amendment 10, Stopping and Parking of Motorized Vehicles and Vehicular Camping. Within desert wildlife management areas, camping in association with motorized vehicles would be

allowed in previously existing disturbed camping areas adjacent to motorized vehicle routes designated as open. Stopping and parking of motorized vehicles would be allowed within 50 feet of the centerline of the designated route. Outside of desert wildlife management areas, on public lands administered by the Bureau, stopping, parking and camping associated with motorized vehicles must occur within 300 feet of routes designated as open in accordance with existing regulations. The existing regulations state that "… no person shall operate an off-road vehicle on public lands … in a manner causing, or likely to cause significant, undue damage to or disturbance of the soil, wildlife, wildlife habitat, improvements, cultural, or vegetative resources or other authorized uses of the public lands …." (43 *Code of Federal Regulations* 8341.1(f)(4)). Stopping, parking and camping must be done in a manner that would not cause uncontrolled widening of routes and undue degradation of sensitive or fragile resources.

Because stopping and parking motorized vehicles and vehicular camping can only occur along open routes, we analyzed the potential for this activity to affect the Parish's daisy and Cushenbury milk-vetch in our earlier consultation (Service 2003a). As noted in the previous section, we have previously concurred with your determination that the proposed route designation in the western Mojave Desert was not likely to adversely affect the Cushenbury milk-vetch and Parish's daisy or their designated critical habitat. Consequently, we will not discuss these species further with regard to stopping and parking motorized vehicles and vehicular camping in this biological opinion. We will discuss the potential effects of this activity on the Lane Mountain milk-vetch in the Effects of the West Mojave Plan on Lane Mountain Milk-Vetch - Amendment 10, Stopping and Parking of Motorized Vehicles and Vehicular Camping section of this biological opinion.

Amendment 11, Barstow to Vegas Race Course. The record of decision for the Bureau's Northern and Eastern Mojave Management Plan amended the California Desert Conservation Area Plan to eliminate the portion of the Barstow to Vegas course located within that planning area (Bureau 2002b). That action eliminated the eastern three-quarters of the route. Under Alternative B of the West Mojave Plan, the Bureau will amend the California Desert Conservation Area Plan to eliminate the western fragment of the old course. This action will benefit the desert tortoise and its critical habitat by eliminating an event that likely resulted in disturbance of habitat each year it was conducted; at least some desert tortoises have also likely been killed during this event in previous years. Consequently, we will not discuss this proposed action further in this biological opinion.

Amendment 11, Stoddard Valley to Johnson Valley Race Corridor. The Bureau will eliminate the Stoddard Valley to Johnson Valley race corridor. A designated open route would be retained between the two off-highway vehicle management areas. Any special events using this open route will be managed as non-speed events outside of the off-highway vehicle management areas. This action will benefit the desert tortoise and its critical habitat by eliminating an event that likely resulted in disturbance of habitat when events were conducted; the use of this corridor as an open route, subject to the same management prescriptions as other routes, will likely result in the same type of effects that have been discussed elsewhere in this biological opinion. Consequently, we will not discuss this proposed action further in this biological opinion.

Miscellaneous Actions. The Bureau proposed several additional actions as part of the West Mojave Plan that were not included in a specific amendment. We have summarized the actions that may be relevant to the listed species under consideration in this biological opinion in the following sections.

Johnson Valley to Parker Race Corridor. The Johnson Valley to Parker race corridor would be retained. The Johnson Valley to Parker race would continue on designated open routes as a permitted, organized event. Races in this corridor would require a special event permit from the Bureau. Stipulations in the special event permit would address issues such as law enforcement, sanitation, safety and resource protection, and any necessary minor modifications of the route. Where this corridor borders the boundaries of a desert wildlife management area, it will be run under yellow flag conditions.

The Bureau also proposes to designate a route network for the El Paso Mountains and Ridgecrest regions using a collaborative process involving stakeholders. We will not consider this action further in this biological opinion because the planning process has not been completed.

The Bureau proposes to nominate certain segments of the route network for inclusion by the California Department of Parks and Recreation as part of the California Back Country Discovery Trail. Because this trail would be located on existing routes, we envision that it would affect listed species in the same manner as the route network. Consequently, we will not consider this action further in this biological opinion.

Education Programs. The Bureau proposes to work with the general public, special interest groups, schools, government agencies, and development and commercial interests through a variety of media to make them aware of the resource values of the western Mojave Desert. We have generally found that properly implemented educational and outreach programs are vital to most successful conservation efforts. Because we do not anticipate any adverse effects to the desert tortoise from this program, we will not discuss it further in this biological opinion.

Additional Measures Related to Livestock Grazing

By memorandum dated March 17, 2005, the Bureau (2005a) requested that we include, in the biological opinion regarding the effects of the California Desert Conservation Area Plan on the desert tortoise and its critical habitat, a different mechanism of reporting on the conditions of livestock allotments than was contained in the original biological opinion on the California Desert Conservation Area Plan (Service 2002a). The revision reflected current grazing management, including the public land health standards, the regional standards and guidelines, and allotment-specific measures to protect the desert tortoise. Your memorandum also described the procedures to be used in the western Mojave Desert until the planning process for that area is completed; by electronic mail dated May 20, 2005, the Bureau indicated that it will also use this method of reporting for grazing in the western Mojave Desert (LaPre 2005b).

Specifically, the Bureau will authorize grazing activities in allotments within the planning area under the prescribed parameters for grazing use in desert tortoise habitat. If the Bureau finds that

grazing activities within an allotment are no longer in conformance with the plans, the Bureau will investigate and establish a corrective management action. The Bureau will contact the Service within 30 days of determining a management action. A determination will include either short-term or long-term management actions to resolve the conflict. Short-term corrective actions will require notification to the Service. A determination by the Bureau of a conflict that requires a long-term management measure may require informal or formal consultation with the Service. The Bureau will provide periodic reporting until the conflict within desert tortoise habitat is resolved or receipt of an allotment-specific biological opinion.

This method of reporting and resolving instances where grazing may occur in a manner that is not consistent with the parameters that the Bureau proposed achieves the goals intended by the first term and condition of the original biological opinion for the desert tortoise on the California Desert Conservation Area Plan (Service 2002a). Specifically, this method provides a mechanism by which the Bureau will ensure that livestock grazing does not affect desert tortoises in a manner that was not considered in this biological opinion. Consequently, we will not discuss general reporting requirements with regard to livestock grazing again in this biological opinion.

Action Area

The implementing regulations for section 7(a)(2) of the Act describe the action area to be all areas affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 *Code of Federal Regulations* 402.02). The Federal action being considered in this biological opinion is the proposed amendment of the California Desert Conservation Area Plan through the adoption of the West Mojave Plan. Consequently, the action area under consideration in this biological opinion generally consists of public lands managed by the Bureau within the planning area for the West Mojave Plan, as described in the final environmental impact statement and report (Bureau et al. 2005). The planning area is located in the western Mojave Desert of California. In some portions of the planning area, land managed by the Bureau occurs in a checkerboard pattern with land owned by private entities and the State of California. We have generally considered the action area to include non-federal lands that are intermixed with or immediately adjacent to public lands; we have included these lands that are immediately adjacent or intermingled in the action area because the Bureau's management direction can profoundly affect such areas. Examples of this influence occur within grazing allotments, where livestock graze relatively small areas of non-federal land in the same manner as the larger tracts of public land, and along linear rights-of-way, where utility companies implement the same actions and protective measures for listed species on both public and non-federal lands. We considered large blocks of land that are not managed by the Bureau to be outside the action area. Because of their size and location, these large blocks of non-federal land are not affected by the Bureau's management of public lands. For example, we considered the intermingled public and non-federal lands in the area where the Fremont-Kramer and Superior-Cronese critical habitat units for the desert tortoise meet as being within the action area. However, we do not consider the large blocks of non-federal lands to the east of California City or to the west of the Cady Mountains and between Interstates 15 and 40 to be part of the action area.

Because of the scale and complexity of the proposed action and the number of species involved with this consultation, we have elected to present the Status of the Species (and Critical Habitat, where appropriate), Environmental Baseline, Effects of the Action, Cumulative Effects, and Conclusion sections for each species separately.

BIOLOGICAL OPINION FOR THE DESERT TORTOISE AND ITS CRITICAL HABITAT

STATUS OF THE DESERT TORTOISE AND ITS CRITICAL HABITAT

Basic Ecology of the Desert Tortoise

The desert tortoise is a large, herbivorous reptile found in portions of the California, Arizona, Nevada, and Utah deserts. It also occurs in Sonora and Sinaloa, Mexico. In California, the desert tortoise occurs primarily within the creosote, shadscale, and Joshua tree series of Mojave desert scrub, and the lower Colorado River Valley subdivision of Sonoran desert scrub. Optimal habitat has been characterized as creosote bush scrub in which precipitation ranges from 2 to 8 inches, diversity of perennial plants is relatively high, and production of ephemerals is high (Luckenbach 1982, Turner and Brown 1982, Schamberger and Turner 1986). Soils must be friable enough for digging of burrows, but firm enough so that burrows do not collapse. In California, desert tortoises are typically associated with gravelly flats or sandy soils with some clay, but are occasionally found in windblown sand or in rocky terrain (Luckenbach 1982). Desert tortoises occur in the California desert from below sea level to an elevation of 7,300 feet, but the most favorable habitat occurs at elevations of approximately 1,000 to 3,000 feet (Luckenbach 1982, Schamberger and Turner 1986).

Desert tortoises may spend more time in washes than in flat areas outside of washes; Jennings (1997) notes that, between March 1 and April 30, desert tortoises "spent a disproportionately longer time within hill and washlet strata" and, from May 1 through May 31, hills, washlets, and washes "continued to be important." Jennings' paper does not differentiate between the time desert tortoises spent in hilly areas versus washes and washlets; however, he notes that, although washes and washlets comprised only 10.3 percent of the study area, more than 25 percent of the plant species on which desert tortoises fed were located in these areas. Luckenbach (1982) states that the "banks and berms of washes are preferred places for burrows;" he also recounts an incident in which 15 desert tortoises along 0.12 mile of wash were killed by a flash flood.

Desert tortoises are most active in California during the spring and early summer when annual plants are most common. Additional activity occurs during warmer fall months and occasionally after summer rain storms. Desert tortoises spend most of their time in the remainder of the year in burrows, escaping the extreme conditions of the desert; however, recent work has demonstrated that they can be active at any time of the year. Further information on the range, biology, and ecology of the desert tortoise can be found in Burge (1978), Burge and Bradley (1976), Hovik and Hardenbrook (1989), Luckenbach (1982), Weinstein et al. (1987), and Service (1994c).

Food resources for desert tortoises are dependent on the availability and nutritional quality of annual and perennial vegetation, which is greatly influenced by climatic factors, such as the timing and amount of rainfall, temperatures, and wind (Beatley 1969, 1974, Congdon 1989, Karasov 1989, Polis 1991 in Avery 1998). In the Mojave Desert, these climatic factors are typically highly variable; this variability can limit the desert tortoise's food resources.

Desert tortoises will eat many species of plants. However, at any time, most of their diet often consists of a few species (Nagy and Medica 1986, Jennings 1993 in Avery 1998). Additionally, their preferences can change during the course of a season (Avery 1998) and over several seasons (Esque 1994 in Avery 1998). Possible reasons for desert tortoises to alter their preferences may include changes in nutrient concentrations in plant species, the availability of plants, and the nutrient requirements of individual animals (Avery 1998). In Avery's (1998) study in the Ivanpah Valley, desert tortoises consumed primarily green annual plants in spring; they ate cacti and herbaceous perennials once the winter annuals began to disappear. Medica et al. (1982 in Avery 1998) found that desert tortoises ate increased amounts of green perennial grass when winter annuals were sparse or unavailable; Avery (1998) found that desert tortoises rarely ate perennial grasses.

Desert tortoises can produce from one to three clutches of eggs per year. On rare occasions, clutches can contain up to 15 eggs; most clutches contain 3 to 7 eggs. Multi-decade studies of the Blanding's turtle (*Emydoidea blandingii*), which, like the desert tortoise, is long lived and matures late, indicate that approximately 70 percent of the young animals must survive each year until they reach adult size; after this time, annual survivorship exceeds 90 percent (Congdon et al. 1993). Research has indicated that 50 to 60 percent of young desert tortoises typically survive from year to year, even in the first and most vulnerable year of life. We do not have sufficient information on the demography of the desert tortoise to determine whether this rate is sufficient to maintain viable populations; however, it does indicate that maintaining favorable habitat conditions for small desert tortoises is crucial for the continued viability of the species.

Desert tortoises typically hatch from late August through early October. At the time of hatching, the desert tortoise has a substantial yolk sac; the yolk can sustain them through the fall and winter months until forage is available in the late winter or early spring. However, neonates will eat if food is available to them at the time of hatching; when food is available, they can reduce their reliance on the yolk sac to conserve this source of nutrition. Neonate desert tortoises use abandoned rodent burrows for daily and winter shelter; these burrows are often shallowly excavated and run parallel to the surface of the ground.

Neonate desert tortoises emerge from their winter burrows as early as late January to take advantage of freshly germinating annual plants; if appropriate temperatures and rainfall are present, at least some plants will continue to germinate later in the spring. Freshly germinating plants and plant species that remain small throughout their phenological development are important to neonate desert tortoises because their size prohibits access to taller plants. As plants grow taller during the spring, some species become inaccessible to small desert tortoises.

Neonate and juvenile desert tortoises require approximately 12 to 16 percent protein content in their diet for proper growth. Desert tortoises, both juveniles and adults, seem to selectively forage for particular species of plants with favorable ratios of water, nitrogen (protein), and potassium. The potassium excretion potential model (Oftedal 2001) predicts that, at favorable ratios, the water and nitrogen allow desert tortoises to excrete high concentrations of potentially toxic potassium, which is abundant in many desert plants. Oftedal (2001) also reports that variation in rainfall and temperatures cause the potassium excretion potential index to change annually and during the course of a plant's growing season. Therefore, the changing nutritive quality of plants, combined with their increase in size, further limits the forage available to small desert tortoises to sustain their survival and growth.

In summary, the ecological requirements and behavior of neonate and juvenile desert tortoises are substantially different than those of subadults and adults. Smaller desert tortoises use abandoned rodent burrows, which are typically more fragile than the larger ones constructed by adults. They are active earlier in the season. Finally, small desert tortoises rely on smaller annual plants with greater protein content to be able to gain access to food and to grow, respectively.

Status of the Desert Tortoise

The Mojave population of the desert tortoise includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, southwestern Utah, and in the Colorado Desert in California. On August 4, 1989, the Service published an emergency rule listing the Mojave population of the desert tortoise as endangered (54 *Federal Register* 32326). In its final rule, dated April 2, 1990, the Service determined the Mojave population of the desert tortoise to be threatened (55 *Federal Register* 12178).

The desert tortoise was listed in response to loss and degradation of habitat caused by numerous human activities including urbanization, agricultural development, military training, recreational use, mining, and livestock grazing. The loss of individual desert tortoises to increased predation by common ravens, collection by humans for pets or consumption, collisions with vehicles on paved and unpaved roads, and mortality resulting from diseases also contributed to the Service's listing of this species.

The following paragraphs provide general information on the results of efforts to determine the status and trends of desert tortoise populations across a large portion of its range; we present information on the status of the desert tortoise within the action area in the Environmental Baseline section of this biological opinion. We have grouped these paragraphs by recovery unit and critical habitat unit; we will describe these units in more detail later in this biological opinion.

Before entering into a discussion of the status and trends of desert tortoise populations across its range, a brief discussion of the methods of estimating the numbers of desert tortoises would be useful. Three primary methods have been widely used: permanent study plots, triangular transects, and line distance sampling.

Generally, permanent study plots are defined areas that are visited at roughly 4-year intervals to determine the numbers of desert tortoises present. Desert tortoises found on these plots during the spring surveys were registered; that is, they were marked so they could be identified individually during subsequent surveys. Between 1971 and 1980, 27 plots were established in California to study the desert tortoise; 15 of these plots were used by the Bureau to monitor desert tortoises on a long-term basis (Berry 1999). Range-wide, 49 plots have been used at one time or another to attempt to monitor desert tortoises (Tracy et al. 2004).

Triangular transects are used to detect sign (i.e., scat, burrows, footprints, etc.) of desert tortoises. The number of sign is then correlated with standard reference sites, such as permanent study plots, to allow the determination of density estimates.

Finally, line distance sampling involves walking transects while trying to detect live desert tortoises. Based on the distance of the desert tortoise from the centerline of the transect, the length of the transect, and a calculation of what percentage of the animals in the area were likely to have been above ground and visible to surveyors during the time the transect was walked, an estimation of the density can be made. Each of these methods has various strengths and weaknesses; the information we present on the density of desert tortoises across the range and in the action area is based on these methods of collecting data.

Note that, when reviewing the information presented in the following sections, determining the number of desert tortoises over large areas is extremely difficult. The report prepared by the Desert Tortoise Recovery Plan Assessment Committee (Tracy et al. 2004) acknowledges as much. Desert tortoises spend much of their lives underground or concealed under shrubs, are not very active in years of low rainfall, and are distributed over a wide area in several different types of habitat. Other factors, such as the inability to sample on private lands and rugged terrain, further complicate sampling efforts. Consequently, the topic of determining the best way to estimate the abundance of desert tortoises has generated many discussions over the years. As a result of this difficulty, we cannot provide concise estimations of the density of desert tortoises in each recovery unit or desert wildlife management area that have been made in a consistent manner.

Given the difficulty in determining the density of desert tortoises over large areas, the reader needs to understand fully that the differences in density estimates in the recovery plan and those derived from subsequent sampling efforts may not accurately reflect on-the-ground conditions. Despite this statement, the reader should also be aware that the absence of live desert tortoises and the presence of carcasses over large areas of some desert wildlife management areas provide at least some evidence that desert tortoise populations seem to be in a downward trend in some regions.

Upper Virgin River Recovery Unit

The Upper Virgin River Recovery Unit is located in the northeastern most portion of the range of the desert tortoise; the Red Cliffs Reserve was established as a conservation area within this

critical habitat unit. The recovery plan states that desert tortoises occur in densities of up to 250 adult animals per square mile within small areas of this recovery unit; overall, the area supports a mosaic of areas supporting high and low densities of desert tortoises (Service 1994c). We have summarized the information in this paragraph from a report by the Utah Division of Wildlife Resources (McLuckie et al. 2003). The Utah Division of Wildlife Resources has intensively monitored desert tortoises, using a distance sampling technique, since 1998. Monitoring in 2003 indicated that the density of desert tortoises was approximately 44 per square mile throughout the reserve. This density represents a 41 percent decline since monitoring began in 1998. The report notes that the majority of desert tortoises that died within one year (n=64) were found in areas with relatively high densities; the remains showed no evidence of predation. Upper respiratory tract disease has been observed in this population; the region also experienced a drought from 1999 through 2002, with 2002 being the driest year. McLuckie et al. (2003) attribute the primary cause of the die-off to drought, but note that disease, habitat degradation, direct mortality of animals, and predation by domestic dogs and common ravens were also factors in the decline.

Northeastern Mojave Recovery Unit

The Northeastern Mojave Recovery Unit is located to the southwest of the Upper Virgin River Recovery Unit and extends through Nevada and into California in Ivanpah Valley. Several critical habitat units and four desert wildlife management areas are located within this recovery unit. Tracy et al. (2004) note that densities of adult desert tortoises for the overall region do not show a statistical trend over time.

The Beaver Dam Slope Desert Wildlife Management Area covers portions of Nevada, Utah, and Arizona; it is located to the southwest of the Red Cliffs Reserve. Based on various methods, the recovery plan estimates the density of desert tortoises in this desert wildlife management area as being from 5 to 56 animals per square mile (Service 1994c). McLuckie et al. (2001) estimated the density in 2001 to be approximately 7.9 reproductive desert tortoises per square mile, using a distance sampling method. However, they also note several problems with the sampling effort, including too few transects and transects placed in habitat types not normally inhabited by desert tortoises; we also note that, as described in the previous paragraph, the survey occurred during a year of lower-than-average rainfall, which would decrease activity levels of desert tortoises and make them more difficult to detect. The encounter rate during this survey was so low that the precision level of the results is low; other monitoring plots, from earlier years, showed higher density estimates.

The Gold Butte-Pakoon Desert Wildlife Management Area covers portions of Nevada and Arizona, generally south of the Beaver Dam Slope Desert Wildlife Management Area. The recovery plan states that densities of desert tortoises in this recovery unit vary from 5 to 56 animals per square mile (Service 1994c).

The Mormon Mesa Desert Wildlife Management Area is located entirely in Nevada, generally west and northwest of the Beaver Dam Slope and Gold Butte-Pakoon desert wildlife management areas, respectively. The recovery plan states that densities of desert tortoises in this recovery unit vary from 41 to 87 subadult and adult animals per square mile (Service 1994c).

The Coyote Springs Desert Wildlife Management Area is located entirely in Nevada, generally west of the Mormon Mesa Desert Wildlife Management Area and east of the Desert National Wildlife Refuge. The recovery plan states that densities of desert tortoises in this recovery unit vary from 0 to 90 adult animals per square mile (Service 1994c). Kernel analysis for the Coyote Springs Desert Wildlife Management Area showed areas where the distributions of carcasses and living desert tortoises do not overlap (Tracy et al. 2004); this scenario is indicative of a higher than average rate of mortality. (The Desert Tortoise Recovery Plan Assessment Committee used a kernel analysis to examine the distribution of live desert tortoises and carcasses over large areas of the range of the species (Tracy et al. 2004). The intent of this analysis is to determine where large areas with numerous carcasses do not overlap large areas with live animals. Regions where the areas of carcasses do not overlap areas of live animals likely represent recent die-offs or declines in desert tortoise populations.) Because permanent study plots for this region were discontinued after 1996, recent declines in numbers would not be reflected in the kernel analysis if they had occurred.

The Ivanpah Desert Wildlife Management Area lies east of the Mojave National Preserve and covers approximately 36,795 acres. It is contiguous with National Park Service lands; note that the National Park Service did not designate desert wildlife management areas within the Mojave National Preserve because it considers that all of its lands are managed in a manner that is conducive to the recovery of the desert tortoise. The permanent study plot in the Ivanpah Valley is located within the Mojave National Preserve and provides information on the status of desert tortoises in this general region. Data on desert tortoises on this permanent study plot were collected in 1980, 1986, 1990, and 1994; the densities of desert tortoises of all sizes per square mile were 386, 393, 249, and 164, respectively (Berry 1996). (Numerous data sets are collected from the study plots and various statistical analyses conducted to provide information on various aspects of trends. We cannot, in this biological opinion, provide all of this information; therefore, we have selected the density of desert tortoises of all sizes per square mile to attempt to indicate trends.) The number of juvenile and immature desert tortoises on the study plot declined, although the number of adult animals remained fairly constant. The notes accompanying this report indicated that the "ill juvenile and dead adult male (desert) tortoises salvaged for necropsy contained contaminants;" it also cited predation by common ravens and the effects of cattle grazing as causative factors in the decline in the number of juvenile and immature desert tortoises on the study plot (Berry 1996). In 2002, workers found 55 desert tortoises on this plot; this number does not represent a density estimate (Berry 2005).

Eastern Mojave Recovery Unit

The Eastern Mojave Recovery Unit extends from west of Clark Mountain, south through the Mojave National Preserve, and east into southern Nevada. Within this recovery unit, the Bureau designated the Shadow Valley and Piute-Fenner desert wildlife management areas within California and the Piute-El Dorado Desert Wildlife Management Area in Nevada.

The Shadow Valley Desert Wildlife Management Area, which occupies approximately 101,355 acres, lies north of Interstate 15 and west of the Clark Mountains. The Mojave National Preserve is located to the south of the interstate. Data on desert tortoises on a permanent study plot in this

area were collected in 1988 and 1992; the densities of desert tortoises of all sizes per square mile were 50 and 58, respectively (Berry 1996). Although these data seem to indicate a slight increase in the number of desert tortoises, in 2002, workers found five desert tortoises on this plot; this number does not represent a density estimate (Berry 2005). Some signs of shell disease have been observed in the population in recent years (Bureau 2002c).

The Bureau's Piute-Fenner Desert Wildlife Management Area lies to the east of the southeast portion of the Mojave National Preserve and is contiguous with National Park Service lands. It occupies approximately 173,850 acres. The Goffs permanent study plot, which is located within the Mojave National Preserve, provides information on the status of desert tortoises in this general region. Data on desert tortoises on this permanent study plot were collected in 1980, 1990, and 1994; Berry (1996) estimated the densities of desert tortoises of all sizes at approximately 440, 362, and 447 individuals per square mile, respectively. As Berry (1996) noted, these data seem to indicate that this area supported "one of the more stable, high density populations" of desert tortoises within the United States. Berry (1996) also noted that "a high proportion of the animals (had) shell lesions." In 2000, only 30 live desert tortoises were found; Berry (2000) estimated the density of desert tortoises at approximately 88 animals per square mile. The shell and skeletal remains of approximately 393 desert tortoises were collected; most of these animals died between 1994 and 2000. Most of the desert tortoises exhibited signs of shell lesions; three salvaged desert tortoises showed abnormalities in the liver and other organs and signs of shell lesions. None of the three salvaged desert tortoises tested positive for upper respiratory tract disease.

The Piute-Eldorado Desert Wildlife Management Area is located entirely in southern Nevada and is contiguous with California's Piute-Fenner Desert Wildlife Management Area. Based on various methods, the recovery plan estimates the density of desert tortoises in this desert wildlife management area as being from 40 to 90 adults per square mile (Service 1994c). A kernal analysis of the results of distance sampling data from 2001 depicted large areas where only carcasses were detected (Tracy et al. 2004). Only six live desert tortoises were encountered in approximately 103 miles of transects during this sampling effort; this encounter rate is very low.

Northern Colorado Recovery Unit

The Northern Colorado Recovery Unit extends from Interstate 40 south, almost to Interstate 10 and from the eastern portions of Joshua Tree National Park east to the Colorado River; it is located immediately south of the Eastern Mojave Recovery Unit. The 874,843-acre Chemehuevi Desert Wildlife Management Area, which is managed by the Bureau, is the sole conservation area for the desert tortoise in this recovery unit.

Two permanent study plots are located within this desert wildlife management area. At the Chemehuevi Valley and Wash plot, 257 and 235 desert tortoises were registered in 1988 and 1992, respectively (Berry 1999). During the 1999 spring survey, only 38 live desert tortoises were found. The shell and skeletal remains of at least 327 desert tortoises were collected; most, if not all, of these animals died between 1992 and 1999. The frequency of shell lesions and nutritional deficiencies appeared to be increasing and may be related to the mortalities.

The Upper Ward Valley permanent study plot was surveyed in 1980, 1987, 1991, and 1995; Berry (1996) estimated the densities of desert tortoises of all sizes at approximately 437, 199, 273, and 447 individuals per square mile, respectively. In 2002, workers found 17 desert tortoises on this plot; this number does not represent a density estimate (Berry 2005).

Eastern Colorado Recovery Unit

The Eastern Colorado Recovery Unit, which is located immediately south of the Northern Colorado Recovery Unit, extends from just north of Interstate 10 south to the Mexico border near Yuma, Arizona; the Salton Sink and Imperial Valley form the western edge of this recovery unit, which extends east to the Colorado River. The Chuckwalla Desert Wildlife Management Area, which covers 818,685 acres, is the sole conservation area for the desert tortoise in this recovery unit. The Marine Corps (Chocolate Mountains Aerial Gunnery Range), Bureau, and National Park Service (Joshua Tree National Park) manage the Federal lands in this recovery unit and desert wildlife management area. Two permanent study plots are located within this desert wildlife management area.

At the Chuckwalla Bench plot, Berry (1996) calculated approximate densities of 578, 396, 167, 160, and 182 desert tortoises per square mile in 1979, 1982, 1988, 1990, and 1992, respectively. In 1997, workers found 52 desert tortoises on this plot; this number does not represent a density estimate (Berry 2005). At the Chuckwalla Valley plot, Berry (1996) calculated approximate densities of 163, 181, and 73 desert tortoises per square mile in 1980, 1987, and 1991, respectively. Tracy et al. (2004) concluded that these data show a statistically significant decline in the number of adult desert tortoises over time; they further postulate that the decline on the Chuckwalla Bench plot seemed to be responsible for the overall significant decline within the recovery unit.

Western Mojave Recovery Unit

Although desert tortoises were historically widespread in the western Mojave Desert, their distribution within this region was not uniform. For example, desert tortoises likely occurred at low densities in the juniper woodlands of the western Antelope Valley and in the sandier habitats in the Mojave River valley. They were also likely largely absent from the higher elevations of the Ord and Newberry mountains and from playas and the areas immediately surrounding these dry lakes. Several large areas of land that are not managed by the Bureau lie within the Western Mojave Recovery Unit; because of their size, these areas are not affected by the Bureau's management of public lands and are therefore not part of the action area for this consultation. These areas lie primarily on military bases, within Joshua Tree National Park, and in areas of private land.

Desert tortoises occur over large areas of Fort Irwin, which is managed by the Department of the Army (Army). At Fort Irwin, the Army conducts realistic, large-scale exercises with large numbers of wheeled and tracked vehicles. In areas where training has occurred for many decades, desert tortoises persist in relatively low numbers primarily on the steep, rugged slopes of the mountain ranges that occur throughout Fort Irwin. Through Public Law 107-107,

approximately 118,600 acres were added to Fort Irwin along its southwestern and eastern boundaries in 2002. Approximately 97,860 acres of the Superior-Cronese Critical Habitat Unit lie along the original southern boundary of Fort Irwin and in the parcel to the southwest that was added in 2002 (Charis Professional Services Corporation 2003, Army 2004). Currently, the Army may conduct some low intensity training in these areas on occasion and some preparations for the onset of force-on-force training should begin soon. To date, these parcels have not been used for force-on-force training; within the next few years, the Army will begin to use a large portion of these lands for maneuvers with numerous wheeled and tracked vehicles. In our biological opinion regarding the effects of the use of these lands for training on the desert tortoise (Service 2004a), we noted that approximately 1,299 to 1,349 adult desert tortoises may occur within the action area for that consultation. The Army established several conservation areas, totaling approximately 16,900 acres, just inside the boundaries of Fort Irwin where maneuvers would not occur. The Army calculated that approximately 152 desert tortoises may reside within these areas; these animals are unlikely to be affected by use of the new training lands. Additionally, because of other restrictions that the Army will follow during training, approximately 5,500 acres of critical habitat of the desert tortoise within the additional training lands will not be used for force-on-force training. These lands lie primarily on and around dry lakes, which generally do not support large numbers of desert tortoises, because the lake beds themselves do not provide suitable habitat and the areas immediately surrounding the playas usually support substrates composed of clays and silt that are not suitable for burrowing. Finally, in the Eastgate portion of Fort Irwin, approximately 288 desert tortoises may be exposed to additional training; however, most of these animals are located in an area that is unlikely to receive much used by vehicles and are thus unlikely to be affected. The Army and Service have agreed that desert tortoises within new training areas that are likely to be killed by maneuvers will be translocated to newly acquired lands to the south of Fort Irwin; a plan for this translocation is currently under development.

The Navy has designated approximately 200,000 acres of the South Range at the Naval Air Weapons Station, China Lake as a management area for the desert tortoise (Service 1995). Through a consultation with the Service (1992a), the Navy agreed to try to direct most ground-disturbing activities outside of this area, to use previously disturbed areas for these activities when possible, and to implement measures to reduce the effects of any action on desert tortoises. This area also encompasses the Superior Valley Tactical Bombing Range located in the southernmost portion of the Mojave B South land management unit of the Naval Air Weapons Station; it continues to be used as an active bombing range for military test and training operations by the Navy and Department of Defense. In the 3 years for which we had annual reports available, activities conducted by the Navy did not kill or injure any desert tortoises (Navy 1995, 2001, 2002). In general, desert tortoises occur in low densities on the North Range of the Naval Air Weapons Station; Kiva Biological Consulting and McClenahan and Hopkins Associates (in Service 1992a) reported that approximately 136 square miles of the North Range supported densities of 20 or fewer desert tortoises per square mile. The South Range supported densities of 20 or fewer desert tortoises per square mile over an area of approximately 189 square miles and densities of greater than 20 per square mile on approximately 30 square miles. The higher elevations and latitude in this area may be responsible for these generally low densities (Weinstein 1989 in Bureau et al. 2005).

The Indian Wells Valley, which is located to the southwest of the Naval Air Weapons Station, likely supported desert tortoises at higher densities in the past. Urban, suburban, and agricultural development in this area is likely cause of the lower densities that are currently found in this area.

Edwards Air Force Base is used primarily to test aircraft and weapons systems used by the Department of Defense. Desert tortoises occur over approximately 220,800 acres of the installation. Approximately 80,640 acres of the base have been developed for military uses or are naturally unsuitable for use by desert tortoises, such as Rogers and Rosamond dry lakes. Based on surveys conducted between 1991 and 1994, approximately 160,640 acres of the base supported 20 or fewer desert tortoises per square mile. Approximately 55,040 acres supported densities between 21 and 50 desert tortoises per square mile; from 51 to 69 desert tortoises per square mile occurred on several smaller areas that totaled 5,120 acres (U.S. Air Force 2004). We expect that current densities are somewhat lower, given the regional declines in desert tortoise numbers elsewhere in the Western Mojave Recovery Unit.

Desert tortoises may have been more common in the past the area west of Highway 14 between the town of Mojave and Walker Pass; high levels of off-road vehicle use and extensive livestock grazing are potential causes for the current scarcity of desert tortoises in this area. Four townships of private land east of the city of California City and south of the Rand Mountains supported large numbers of desert tortoises as late as the 1970s; high levels of off-road vehicle use, extensive grazing of sheep, scattered development, and possibly poaching have greatly reduced the density of desert tortoises in this area.

The direct and indirect effects of urban and suburban development extending from Lancaster in the west to Lucerne Valley in the east has largely eliminated desert tortoises from this area. A few desert tortoises remain on the northern slopes of the San Bernardino Mountains, south of Lucerne Valley; however, they seem to be largely absent from the portion of this area in Los Angeles County (Bureau et al. 2005).

The northern portion of Joshua Tree National Park is within the planning area for the West Mojave Plan. Given the general patterns of visitor use at Joshua Tree National Park, we expect that this area receives little use.

Private lands between the northern boundary of Joshua Tree National Park and the southern boundary of the Marine Corps Air Ground Combat Center continue to support desert tortoises; the primary threat to desert tortoises in this area is urbanization.

Desert tortoises occur within the Marine Corps Air Ground Combat Center in densities of greater than 50 per square mile in limited areas; most of the installation, however, supports from 0 to 5 animals per square mile (Jones and Stokes Associates 1998 in Natural Resources and Environmental Affairs Division 2001). The Marine Corps' integrated natural resource

management plan also notes that the number of desert tortoises may have declined in the more heavily disturbed areas of the Marine Corps Air Ground Combat Center and that vehicles, common ravens, and dogs are responsible for mortalities. In general, the Marine Corps Air Ground Combat Center supports a wide variety of training exercises that include the use of tracked and wheeled vehicles and live fire.

Recovery Plan for the Desert Tortoise

The recovery plan for the desert tortoise is the basis and key strategy for recovery and delisting of the desert tortoise. The recovery plan divides the range of the desert tortoise into 6 distinct population segments or recovery units and recommends the establishment of 14 desert wildlife management areas throughout the recovery units. Within each desert wildlife management area, the recovery plan recommends implementation of reserve level protection of desert tortoise populations and habitat, while maintaining and protecting other sensitive species and ecosystem functions. The recovery plan also recommends that desert wildlife management areas be designed to follow the accepted concepts of reserve design and be managed to restrict human activities that negatively affect desert tortoises (Service 1994c). The delisting criteria established by the recovery plan are:

1. The population within a recovery unit must exhibit a statistically significant upward trend or remain stationary for at least 25 years;

2. Enough habitat must be protected within a recovery unit or the habitat and desert tortoises must be managed intensively enough to ensure long-term viability;

3. Populations of desert tortoises within each recovery unit must be managed so discrete population growth rates (lambdas) are maintained at or above 1.0;

4. Regulatory mechanisms or land management commitments that provide for long-term protection of desert tortoises and their habitat must be implemented; and

5. The population of the recovery unit is unlikely to need protection under the Endangered Species Act in the foreseeable future.

The recovery plan based its descriptions of the six recovery units on differences in genetics, morphology, behavior, ecology, and habitat use over the range of the Mojave population of the desert tortoise. The recovery plan contains generalized descriptions of the variations in habitat parameters of the recovery units and the behavior and ecology of the desert tortoises that reside in these areas (pages 20 to 22 in Service 1994c). The recovery plan (pages 24 to 26 from Service 1994c) describes the characteristics of desert tortoises and variances in their habitat, foods, burrow sites, and phenotype across the range of the listed taxon. Consequently, to capture the full range of phenotypes, use of habitat, and range of behavior of the desert tortoise as a species, conservation of the species across its entire range is essential.

Assessment of the Recovery Plan

In 2003, the Service appointed a group of researchers to conduct a scientific assessment of the recovery plan for the desert tortoise, which was completed in 1994. This group, called the Desert Tortoise Recovery Plan Assessment Committee, completed its assessment in 2004. The group found that the recovery plan was "fundamentally sound, but some modifications for contemporary management will likely make recovery more successful" (Tracy et al. 2004). The group also found that analyses showed desert tortoise populations were declining in some portions of the range, assessing the density of desert tortoises is difficult, and "the original paradigm of desert tortoises being recovered in large populations relieved of intense threats may be flawed…"(Tracy et al. 2004). Finally, the group reviewed the distinct population segments (or recovery units) described in the recovery plan and concluded they should be modified; briefly, the Desert Tortoise Recovery Plan Assessment Committee recommends leaving the Western Mojave and Upper Virgin River units intact and recombining the remaining four into three distinct population segments.

Status of Critical Habitat

The Service designated critical habitat for the desert tortoise in portions of California, Nevada, Arizona, and Utah in a final rule, published February 8, 1994 (59 *Federal Register* 5820). Critical habitat is designated by the Service to identify the key biological and physical needs of the species and key areas for recovery and focuses conservation actions on those areas. Critical habitat is composed of specific geographic areas that contain the biological and physical attributes that are essential to the species' conservation within those areas, such as space, food, water, nutrition, cover, shelter, reproductive sites, and special habitats. These features are called the primary constituent elements of critical habitat. The specific primary constituent elements of desert tortoise critical habitat are: sufficient space to support viable populations within each of the six recovery units and to provide for movement, dispersal, and gene flow; sufficient quality and quantity of forage species and the proper soil conditions to provide for the growth of these species; suitable substrates for burrowing, nesting, and overwintering; burrows, caliche caves, and other shelter sites; sufficient vegetation for shelter from temperature extremes and predators; and habitat protected from disturbance and human-caused mortality.

The final rule for designation of critical habitat did not explicitly ascribe specific conservation roles or functions to the various critical habitat units. Rather, it refers to the strategy of establishing recovery units and desert wildlife management areas recommended by the recovery plan for the desert tortoise, which had been published as a draft at the time of the designation of critical habitat, to capture the "biotic and abiotic variability found in desert tortoise habitat" (59 *Federal Register* 5820, see page 5823). Specifically, we designated the critical habitat units to follow the direction provided by the draft recovery plan for the establishment of desert wildlife management areas. Note that each critical habitat unit functions independently of the others in terms of providing the physical and biological needs of individual desert tortoises; that is, desert tortoises are not required to move between or among units to complete their life histories. For this reason, we have not presented specific information related to the status of individual critical habitat units that are located outside of the action area. We also note that the critical habitat units

in aggregate are intended to protect the variability that occurs across the large range of the desert tortoise; the loss of any specific unit would eliminate elements of the species' behavioral, ecological, and genetic variability.

We did not designate the Desert Tortoise Natural Area and Joshua Tree National Park in California and the Desert National Wildlife Refuge in Nevada as critical habitat because they are "primarily managed as natural ecosystems" (59 *Federal Register* 5820, see page 5825) and provide adequate protection to desert tortoises. Since the designation of critical habitat, Congress increased the size of Joshua Tree National Park; a portion of the expanded boundary of Joshua Tree National Park lies within critical habitat of the desert tortoise.

Note that, for all critical habitat units, the primary constituent elements are generally functioning, to the best of our knowledge, in a manner that would support the key biological and physical needs of the desert tortoise. In some specific areas within the boundaries of critical habitat, such as within and adjacent to dry lakes, some of the primary constituent elements are naturally absent; desert tortoises do not usually reside in such areas in large numbers. In other areas, human activities have decreased the ability of some of the primary constituent elements to function to the maximum extent; such areas include but are not limited to unpaved roads and areas around water sources within cattle allotments. These areas are too numerous to mention specifically; generally, however, these areas comprise a relatively small portion of the critical habitat unit and do not compromise the conservation role of the units as a whole. Non-native annual plant species are an exception to the general statements in the previous sentences. These species are widely distributed throughout critical habitat units and, in some cases such as Sahara mustard (*Brassica tournefortii*), continuing to spread rapidly; their abundance in any given area varies annually according to weather patterns. Although we do not understand their complete role in relation to the ecology of the desert tortoise, we know that these species can exclude the native annual species on which the desert tortoise depends and can lead to the spread of wildfires. The role of these species with regard to the proper functioning of critical habitat units is an important topic for further research.

The following sections provide a brief description of the portions of the critical habitat units that are within the Western Mojave Recovery Unit but outside of the action area of this consultation. We present similar information for the critical habitat units within the action area in the Environmental Baseline section of this biological opinion.

Superior-Cronese Critical Habitat Unit. Approximately 97,860 acres of the Superior-Cronese Critical Habitat Unit lie within the boundaries of the Army's National Training Center (Charis Professional Services Corporation 2003, Army 2004). Currently, the Army may conduct some low intensity training in these areas on occasion and some preparations for the onset of force-on-force training should begin soon. To date, these parcels have not been used for force-on-force training; within the next few years, the Army will begin to use a large portion of these lands for maneuvers with numerous wheeled and tracked vehicles. In our biological opinion regarding the effects of the use of these lands for training on the desert tortoise (Service 2004a), we noted that approximately 75,439 acres of critical habitat located within Fort Irwin would be affected by force-on-force training. As part of the consultation regarding the effects of the use of these lands

for training on the desert tortoise and its critical habitat (Service 2004a), the Army established several conservation areas, totaling approximately 16,900 acres, just inside the boundaries of Fort Irwin where maneuvers would not occur. Because of other restrictions that the Army will follow during training, approximately 5,500 acres of critical habitat of the desert tortoise within the additional training lands will not be used for force-on-force training. These lands lie primarily on and around dry lakes, which generally do not support high quality habitat of the desert tortoise, because the primary constituent elements are absent from the lake beds themselves and usually of lower quality in the immediately surrounding areas.

Approximately 87,265 acres in the southern portion of the Naval Air Weapons Station at China Lake are designated as critical habitat for the desert tortoise. This area encompasses the Superior Valley Tactical Bombing Range located in the southernmost portion of the Mojave B South land management unit of the Naval Air Weapons Station. This area continues to be used as an active bombing range for military test and training operations by the Navy and other branches of the Department of Defense. Within the area designated as critical habitat, approximately 675 acres are disturbed to date. Disturbed areas support the required road network, associated facilities and infrastructure, and target impact areas (O'Gara 2005).

Fremont-Kramer Critical Habitat Unit. Approximately 65,560 acres of Edwards Air Force Base are designated as critical habitat of the desert tortoise. Disturbance within the portion of the Fremont-Kramer Critical Habitat Unit that occurs within Edwards Air Force Base includes targets, buildings, parking lots, roads, road shoulders, trails, and cleared areas. Approximately 1,670 acres within critical habitat have been disturbed by human activities, including approximately 323 acres of primary and secondary roads. Additionally, approximately 195.3 miles of abandoned jeep trails and other minor routes are located within critical habitat (Collis pers. comm. 2005).

Pinto Mountain Critical Habitat Unit. Approximately 55,596 acres of this critical habitat unit lie within Joshua Tree National Park (Service 2005a). Given the general patterns of visitor use at Joshua Tree National Park, we expect that this area receives little use.

Relationship of Recovery Units, Distinct Population Segments, Desert Wildlife Management Areas, and Critical Habitat Units

The recovery plan (Service 1994c) recognized six recovery units or evolutionarily significant units across the range of the listed taxon, based on differences in genetics, morphology, behavior, ecology, and habitat use of the desert tortoises found in these areas. The boundaries between these areas are vaguely defined. In some cases, such as where the Western Mojave Recovery Unit borders the Eastern Mojave Recovery Unit, a long, low-lying, arid valley provides a fairly substantial separation of recovery units. In other areas, such as where the Eastern Mojave Recovery Unit borders the Northern Colorado Recovery Unit, little natural separation exists. Because of the vague boundaries, the acreage of these areas has not been quantified. Over the years, workers have commonly referred to the areas as "recovery units;" the term "distinct population segment" has not been in common use. As mentioned previously in the Assessment of the Recovery Plan section of this biological opinion, the Desert Tortoise Recovery Plan

Assessment Committee suggests that five recovery units (or distinct population segments) would more appropriately represent variation across the range of the desert tortoise rather than the six described in the recovery plan; because this concept is not yet universally accepted, we will continue to refer to the recovery units described in the recovery plan in this biological opinion.

The recovery plan recommended that land management agencies establish one or more desert wildlife management areas within each recovery unit. As mentioned previously in the Recovery Plan for the Desert Tortoise section of this biological opinion, the recovery plan recommended that these areas receive reserve-level management to remove or mitigate the effects of the human activities responsible for declines in the number of desert tortoises. As was the case for the recovery units, the recovery plan did not determine precise boundaries for the desert wildlife management areas; the recovery team intended for land management agencies to establish these boundaries, based on the site-specific needs of the desert tortoise. At this time, desert wildlife management areas have been established throughout the range of the desert tortoise, except in the Western Mojave Recovery Unit.

Based on the recommendations contained in the draft recovery plan for the desert tortoise (59 *Federal Register* 5820), the Service designated critical habitat units throughout the range of the desert tortoise. The 14 critical habitat units have defined boundaries and cover specific areas throughout the 6 recovery units.

The Bureau used the boundaries of the critical habitat units and other considerations, such as conflicts in management objectives and more current information, to propose and designate desert wildlife management areas through its land use planning processes. In California, the Bureau also classified these desert wildlife management areas as areas of critical environmental concern, which, as we mentioned in the Description of the Proposed Action section of this biological opinion, allows the Bureau to establish management goals for specific resources in defined areas. Through the land use planning process, the Bureau established firm boundaries for the desert wildlife management areas.

Finally, we note that the Department of Defense installations and National Park Service units in the California desert did not establish desert wildlife management areas on their lands. Where the military mission is compatible with management of desert tortoises and their habitat, the Department of Defense has worked with the Service to conserve desert tortoises and their habitat. Examples of such overlap include the bombing ranges on the Navy's Mojave B and the Chocolate Mountains Aerial Gunnery Ranges; although the target areas are heavily disturbed, most of the surrounding land remains undisturbed. Additionally, the Army has established several areas along the boundaries of Fort Irwin where training with vehicles is prohibited; desert tortoises persist in these areas, which are contiguous with lands off-base. We discussed the situation at Joshua Tree National Park in the Status of Critical Habitat section of this biological opinion. The National Park Service did not establish desert wildlife management areas within the Mojave National Preserve, because the entire preserve is managed at a level that is generally consistent with the spirit and intent of the recovery plan for the desert tortoise.

The following table depicts the relationship among recovery units, desert wildlife management areas, and critical habitat units through the range of the desert tortoise.

Critical Habitat Unit	Desert Wildlife Management Area	Recovery Unit	State	Size of Critical Habitat Unit (acres)
Chemehuevi	Chemehuevi	Northern Colorado	CA	937,400
Chuckwalla	Chuckwalla	Eastern Colorado	CA	1,020,600
Fremont-Kramer	Fremont-Kramer	Western Mojave	CA	518,000
Ivanpah Valley	Ivanpah Valley	Eastern Mojave	CA	632,400
Pinto Mountain	Joshua Tree	Western Mojave/Eastern Colorado	CA	171,700
Ord-Rodman	Ord-Rodman	Western Mojave	CA	253,200
Piute-Eldorado- CA	Fenner	Eastern Mojave	CA	453,800
Piute-Eldorado- NV	Piute-Eldorado	Northeastern Mojave/Eastern Mojave	NV	516,800
Superior-Cronese	Superior-Cronese Lakes	Western Mojave	CA	766,900
Beaver Dam:		Northeastern Mojave (all)		
NV	Beaver Dam		NV	87,400
UT	Beaver Dam		UT	74,500
AZ	Beaver Dam		AZ	42,700
Gold Butte-Pakoon		Northeastern Mojave (all)		
NV	Gold Butte-Pakoon		NV	192,300
AZ	Gold Butte-Pakoon		AZ	296,000
Mormon Mesa	Mormon Mesa Coyote Spring	Northeastern Mojave	NV	427,900
Upper Virgin River	Upper Virgin River	Upper Virgin River	UT	54,600

Recent Fires

Since December 2004, numerous wildfires have occurred in desert tortoise habitat across its range. In Nevada, the Bureau estimates that 300,000 acres of desert tortoise habitat burned; this figure includes 15,000 to 20,000 acres of critical habitat. Although the greatest extent of burned habitat has occurred in Nevada, desert tortoise habitat also burned in Utah, Arizona, and California. Post-wildfire analyses are underway to quantify the number of acres of both critical and non-critical habitat affected by these wildfires. Although we know that some desert tortoises were killed by the wildfires, mortality estimates are not available at this time (Burroughs 2005).

ENVIRONMENTAL BASELINE FOR THE DESERT TORTOISE AND ITS CRITICAL HABITAT

Previous Consultations

The Bureau and Service have completed numerous formal consultations for actions affecting the desert tortoise or its critical habitat within the boundary of the California Desert Conservation Area. This number does not accurately reflect the number of actions that the Bureau has authorized or implemented for several reasons. First, several formal consultations were programmatic in nature and considered the effects of numerous separate actions; several biological opinions that evaluated the effects of pipeline maintenance are examples of this type of consultation. Other consultations were conducted as a result of the designation of critical habitat for the desert tortoise; these biological opinions evaluated the effects on critical habitat of actions for which consultation on the desert tortoise had already been completed. Finally, we have completed consultation on several actions that were never implemented; the waste disposal sites in the Cady Mountains and at Broadwell Dry Lake are examples of such actions. In addition to these formal consultations, the Bureau and Service have engaged in numerous informal consultations.

The Service has issued several biological opinions to the Bureau with regard to the effects of cattle on the desert tortoise in the northern and eastern Mojave Desert and northern and eastern Colorado Desert planning areas. In August 1992, we issued a biological opinion regarding cattle grazing within desert tortoise habitat along the eastern slopes of the Sierra Nevada (1-6-92-F-55, Service 1992b). In March 1994, we issued a biological opinion regarding 25 grazing allotments within the California Desert Conservation Area (1-8-94-F-17, Service 1994b). That biological opinion concluded that the Bureau's cattle grazing program in the California Desert Conservation Area was not likely to jeopardize the continued existence of the desert tortoise. On April 20, 1994, the Service issued a biological opinion that evaluated the effects of cattle grazing on critical habitat of the desert tortoise, which had recently been designated; the Service concluded that the Bureau's rangewide cattle grazing program was not likely to adversely modify critical habitat of the desert tortoise (1-5-94-F-107, Service 1994a). Several of the allotments that were included in these biological opinions are located within the Western Mojave Recovery Unit. Attachment 1 depicts the current status of grazing allotments within the planning area. Note that several allotments no longer are grazed as a result of various actions that have occurred since the publication of the California Desert Conservation Area Plan in 1980.

The Service and Bureau consulted on the development of several large mines in the early 1990s. Hundreds of acres of habitat were lost as the result of these projects. Several of these mines were in the eastern end of the Rand Mountains where desert tortoises seem to be less common; we do not know whether desert tortoises are less common in this area because the habitat is more rugged and at slightly higher elevation (and therefore not as suitable) or as a result of historical mining activities in the region.

The Service and Bureau have also consulted programmatically on the effects of small mines, small projects, remediation of illegal dumps, installation of minor electrical utilities, and pipeline

maintenance on the desert tortoise and its critical habitat within the Western Mojave Recovery Unit. These consultations were conducted to expedite the consultation process for numerous projects that were similar in nature and had relatively minor effects on the desert tortoise; because of compensation requirements imposed by the Bureau, some acquisition of lands important to the recovery of the species has also occurred as a result of these programs. In the biological opinions for all of these consultations, the Service concluded that the proposed actions were not likely to jeopardize the continued existence of the desert tortoise or adversely modify its critical habitat because of the protective measures proposed by the Bureau, the likelihood that these actions could be undertaken with little or no injury to or mortality of desert tortoises, and the small area of disturbance in relation to the available habitat of the species. Under the auspices of one such consultation on mining activities, the Bureau authorized 25 projects between 1998 and 2002. In total, these projects resulted in 41.28 acres of habitat loss or disturbance; no desert tortoises were known to have been killed and one was moved from harm's way. Between 1992 and 1997, the Bureau authorized projects that resulted in approximately 41 acres of disturbance; we were not able to determine the number of individual actions or number of desert tortoises encountered during this period. The Service and Bureau also consulted on a similar process under which various types of activities could be implemented; the same basic criteria were used to screen projects for this consultation. Between 1997 and 2002, the Bureau authorized 35 projects under the auspices of this consultation; these projects resulted in approximately 22 acres of habitat loss or disturbance; monitors were not aware of any desert tortoises being killed and none were handled during implementation of these projects. These biological opinions remain in effect throughout the California Desert Conservation Area.

We have consulted with the Bureau regarding off-highway vehicle management areas in the western Mojave Desert; the Johnson Valley, Stoddard Valley, El Mirage, and Spangler Hills areas had either been established or were in the process of being established when the desert tortoise was listed. Johnson and Stoddard valleys and portions of the El Mirage area likely supported high quality habitat and higher densities of desert tortoises prior to their use for off-road recreation; densities of desert tortoises in the Spangler Hills may not have been as great because of its more northerly location.

We also consulted with the Bureau on programs for dual sport events. We are unaware of any desert tortoises being killed during the hundreds of these events that have occurred since its listing; however, we recognize that desert tortoises may have been killed but not detected. These events are conducted within critical habitat only during periods when desert tortoises are less active; additionally, vehicles are restricted to authorized routes during these events. These factors likely contribute to the lack of mortalities of desert tortoises.

As noted in the Consultation History section of this biological opinion, the Service and Bureau consulted on a network of designated routes in the western Mojave Desert (Service 2003a). As a result of the amendment that was addressed in that consultation, the amount of existing open routes in subregions that overlap critical habitat of the desert tortoise in the western Mojave Desert was reduced from approximately 4,062 to 2,475 miles (Coyote, El Mirage, Fremont, Kramer, Newberry-Rodman, Ord, and Superior subregions, plus the Black Mountain, Rainbow Basin, and Western Rand Mountains areas of critical environmental concern). The Bureau

(2003a) noted that, for several subregions, a proportionately higher number of route closures were in areas characterized by bajada topography. Conversely, a proportionately higher number of routes were designated as open in more mountainous terrain. We and the Bureau expect that roads in more mountainous terrain are less likely to affect desert tortoises because they are generally less common in this type of habitat; also, vehicles are less likely to leave established routes in steep, rugged terrain. The Desert Tortoise Recovery Plan Assessment Committee (Tracy et al. 2004) notes that the western Mojave Desert contains a higher density of roads than any other recovery unit. This density comparison is based on the route inventory conducted in 2001 and not the route designation implemented in 2003.

The Service (1990) and Bureau completed formal consultation on a land tenure adjustment program which the Bureau, Air Force, and County of San Bernardino have been implementing since before the desert tortoise was listed. Under the provisions of the Western Mojave Land Tenure Adjustment Program, which is funded by the Air Force, the Bureau exchanges isolated parcels of public land in areas that are more appropriate for development for private lands that are more remote. This program has resulted in the direct acquisition by the Bureau of approximately 9,174 acres of land and of approximately 52,073 acres through exchanges; the Bureau has provided approximately 18,359 acres of land to non-federal entities in exchange (Gonzales 2004). The West Mojave Land Tenure Adjustment Program was amended in 1998 to include some lands near Barstow within the boundaries of the program. This action was part of a complex land exchange with the Catellus Corporation. The Bureau re-initiated consultation on the West Mojave Land Tenure Adjustment Program at that time and we issued a biological opinion on the amended program (Service 1998).

The Service has also issued several biological opinions to other Federal agencies that have affected the desert tortoise and its critical habitat. Several of these biological opinions are notable in their scope and public visibility. The Service issued two biological opinions to the Federal Energy Regulatory Commission regarding the effects of the installation of three large pipelines across the desert. During the first installation, in the early 1990s, approximately 30 desert tortoises were killed; only one desert tortoise was killed in the most recent installation, which occurred in 2003. Portions of these pipelines cross the Western Mojave Recovery Unit.

In 2004, the Service issued a biological opinion to the Army for the use of additional training lands at its National Training Center. The biological opinion considered the loss or degradation of approximately 75,000 acres of desert tortoise habitat within the Superior-Cronese Critical Habitat Unit, the loss or degradation of additional areas of lower quality habitat outside of critical habitat, the translocation of several hundred desert tortoises from areas that will be regularly used for training to locations off-base, and the possible loss of desert tortoises that are not found during the translocation effort. As part of the conservation measures included in the proposed action, Congress will appropriate $75 million over several years to implement numerous conservation measures (Service 2004a). To date, the Army has purchased approximately 99,000 acres of lands from the Catellus Corporation and the private interests in 3 cattle allotments in the western Mojave Desert as part of the conservation measures for the expanded training areas. We are currently participating in an inter-agency working group to develop a translocation plan for desert tortoises affected by the Army's use of additional training

lands. We mention this consultation because, although the area within the boundaries of Fort Irwin is not within the action area for this consultation, the conservation measures being implemented by the Army as part of the proposed action are likely to have substantial beneficial effects on the desert tortoise and its critical habitat within the action area.

The Department of Defense consulted on a competitive race for robotic vehicles (Service 2004c). Despite the high visibility of this event, most vehicles failed within a short distance of the starting line. Impacts to desert tortoise habitat were insignificant, if any occurred at all; no desert tortoises were killed or injured.

The Federal Highways Administration has funded the widening of many miles of Interstate and State highways in the California Desert Conservation Area. Although hundreds of acres of habitat were destroyed by these actions, the vast majority of the loss was immediately adjacent to the freeways, where desert tortoises are usually scarce and the habitat of poor quality. To mitigate the loss of habitat, the California Department of Transportation has, through its consultations with the California Department of Fish and Game under the authorities of the California Endangered Species Act, fenced dozens of miles of highway to prevent desert tortoises from being killed and acquired thousands of acres of private lands that are being managed for the benefit of the desert tortoise. Boarman and Sazaki (1996) determined that desert tortoises suffer significantly less mortality along fenced roads than along those that are not fenced. In balance, desert tortoises have likely benefited from the actions of the Federal Highways Administration and the California Department of Transportation.

The Service has also consulted many times with the Federal Communications Commission on the installation of cell towers in the California Desert Conservation Area. Although several towers have been installed, the aggregated effects are minor in that desert tortoises are usually avoided during construction and little habitat is affected.

The Bureau notes that, between 1990 and 1995, 101 projects were authorized by 13 Federal agencies throughout the California desert; these actions resulted in the handling, to move desert tortoises from harm's way, 922 desert tortoises and in the deaths of 54 individuals (Appendix L, Bureau et al. 2005). Although we do not have specific data on these projects, most likely occurred in the Western Mojave Recovery Unit, simply because this area is subject to a far greater amount of human activity than the eastern portion of the California Desert Conservation Area. Thirty-eight of the 54 desert tortoises were killed during the installation of the Kern and Mojave pipelines; 3 were killed during construction of the Mead-McCullough-Victorville transmission line. Both of these projects crossed more than one recovery unit; therefore, the 41 desert tortoises that died during these projects were likely distributed across several recovery units. Note also that 733 desert tortoises were handled during implementation of the Kern and Mojave pipelines and Mead-McCullough-Victorville transmission line.

For the period after 1994, LaRue perused files and interviewed staff in the Bureau's Ridgecrest and Barstow field offices to gather information. LaRue (informal notes 2004) found information on eleven consultations for actions located, at least in part, in the western Mojave Desert. Additionally, several pipeline companies implemented maintenance actions under the auspices of

"programmatic" consultations; little disturbance of habitat generally occurs with these projects and, to date, we are unaware of any desert tortoises being killed during these maintenance activities. One of the larger projects, in terms of the amount of habitat disturbance, was the new Kern River Pipeline; it followed the route of the Boulder Utility Corridor through the western Mojave Desert. No desert tortoises were killed or injured during the installation of this pipeline. Portions of the Level 3 fiber optic cable were also installed along this corridor; no mortalities of desert tortoises were reported, 53 animals were moved from harm's way, and 59 acres of habitat were disturbed. Note that this fiber optic cable also crossed several recovery units. Finally, nine desert tortoises were relocated during construction of a gas line between Kramer Junction and Adelanto; approximately 323 acres of habitat were disturbed.

We find it notable that, with the exception of the original Kern River Pipeline and the Mojave Pipeline, no single project has resulted in the deaths of more than three desert tortoises; during most actions, no desert tortoises have been killed. We attribute the low level of mortality to the protective measures implemented during the consultation process, the fact that many projects are implemented in the winter when desert tortoises are mostly inactive, and, at least in part, to the decline in the number of desert tortoises over large parts of the Mojave Desert over the past several years.

For most projects, the Bureau, under the authorities of the Federal Land and Management Policy Act, requires project proponents to compensate for the unavoidable impacts of projects. Generally, proponents acquire lands that are important for the conservation of the desert tortoise and donate the lands to the Bureau; alternatively, proponents contribute funds to a special account that the Bureau manages for the acquisition of land. Between 1990 and 2002, the Bureau acquired approximately 6,426 acres of compensation lands as a result of projects that were implemented on public lands. For many projects, the California Department of Fish and Game also receives compensation lands from impacts that occur on non-federal lands that are adjacent to public lands.

Status of the Desert Tortoise in the Action Area

Desert tortoises occur over large areas of public lands within the Western Mojave Recovery Unit; however, as we have noted previously in this biological opinion, their distribution is uneven. On public lands, they occur as far north as Olancha and the northern Panamint Valley south to the boundary of Joshua Tree National Park; desert tortoises also occur from the lower foothills of the southern Sierra Nevada and Tehachapi Mountains in the west east to Death Valley and the eastern side of Joshua Tree National Park. Note that the planning area of the West Mojave Plan covers more area than the range of the desert tortoise; for example, the western part of the planning area, along the higher flanks of the Sierra Nevada, reaches elevations where desert tortoises do not occur. The planning area also extends farther north than desert tortoises normally occur in this part of their range.

The recovery plan for the desert tortoise considered the Western Mojave Recovery Unit to be one of the most threatened units (Service 1994c). Desert tortoises in this recovery unit continue to face numerous threats. Predation by common ravens and feral dogs, mortality on paved and

unpaved roads, vandalism, and poaching continue to cause loss of individuals. The cause or causes of mortality in many individuals cannot be determined; drought, one or more diseases, and physiological stress may be factors. Appendix L of the final environmental impact report and statement (Bureau et al. 2005) notes that the cause of death could be determined for 148 of the 1,779 carcasses that were found during transect work conducted from 1998 trough 2002 and during line-distance sampling conducted in 2001 and 2002. These data indicate that predation by mammals (71 individuals), crushing by off-highway vehicles (35), predation by common ravens (12), and gunshot (9) accounted for most of the identifiable causes of death on lands managed by the Bureau (see Table L-6 of Appendix L).

Based on recommendations contained in the recovery plan, the Service has been coordinating an effort to determine trends in number of desert tortoises that occur in each recovery unit. This effort, which is called line-distance sampling, relies on detecting live animals during the spring. Data from this sampling have not been fully analyzed to date. Based on density values derived from line-distance sampling conducted within the Fremont-Kramer, Superior-Cronese, and Ord-Rodman critical habitat units), Heaton et al. (2004) calculated that approximately 20,420 to 41,224 adult desert tortoises reside in the western Mojave Desert. (The Desert Tortoise Recovery Plan Assessment Committee does not consider the Pinto Mountain Desert Wildlife Management Area to be part of the Western Mojave Recovery Unit [Heaton et al. 2004]; therefore, this range does not include animals from that area.) They arrived at this estimate by multiplying the average density for each critical habitat unit by the acreage of suitable habitat that was sampled within the unit and totaling the results. Note that the sampling excludes areas over 4,200 feet in elevation and playas, where desert tortoises are not expected to live, and private lands, which are not sampled because of lack of access. Desert tortoises that reside within suitable habitat on private lands are not included in the estimate; consequently, the predicted range of the number of desert tortoises may be greater than estimated. Conversely, as we noted previously in this section, the most favorable habitat for desert tortoises occurs between 1,000 and 3,000 feet, therefore, including elevations of up to 4,200 feet in the abundance calculation may result in an overestimate of the number of desert tortoises. Finally, statistical issues with the methodology of line-distance sampling may introduce even greater variances in the estimated total than those shown in the depicted range. Regardless of the variance that may exist in these estimates, they represent the best available scientific and commercial information.

From 1998 to 2001, biologists working for the Bureau surveyed 3,362 transects covering 3,378 square miles in the western Mojave Desert (Bureau et al. 2005). The transects are generally conducted by walking a triangular transect, 0.5 mile on each side, and recording all sign (i.e., scats, burrows, or other evidence of the presence of animals) of desert tortoises. The surveyors did not find any sign of desert tortoises on 1,405 (42 percent) of the transects; the surveyors failed to detect sign in areas where desert tortoises were previously considered to be common. Map 3-8 in the final environmental impact report and statement (Bureau et al. 2005) depicts the distribution of above-average sign counts; higher sign counts generally indicate the areas that support a higher relative abundance of desert tortoises. The following sections describe the results of work related to the abundance of desert tortoises that has been conducted within and adjacent to the proposed desert wildlife management areas in the Western Mojave Recovery Unit.

Vicinity of the Pinto Mountains Desert Wildlife Management Area

The proposed Pinto Mountains Desert Wildlife Management Area is located in the southeastern portion of the Western Mojave Recovery Unit; Tracy et al. (2004) suggest that it would be more appropriately placed in the Eastern Colorado Recovery Unit. No permanent study plots are located in this proposed desert wildlife management area. Little information exists on the densities of desert tortoises in this area. Tracy et al. (2004) noted that the distribution of carcasses and live desert tortoises appeared to be what one would expect in a "normal" population of desert tortoises; that is, carcasses occurred in the same areas as live animals and were not found in extensive areas in the absence of live desert tortoises. No higher density areas were found in the proposed Pinto Mountain Desert Wildlife Management Area during the survey work conducted by the Bureau from 1998 to 2001.

Vicinity of the Ord-Rodman Desert Wildlife Management Area

The proposed Ord-Rodman Desert Wildlife Management Area is located to the southeast of the city of Barstow. The recovery plan notes that the estimated density of desert tortoises in this area is 5 to 150 animals per square mile (Service 1994c). During the survey work conducted by the Bureau from 1998 to 2001, the proposed Ord-Rodman Desert Wildlife Management Area contained three higher concentration areas, located in its eastern, northwestern, and southern corners. Three permanent study plots are located within and near this proposed desert wildlife management area. The following table contains the density estimates for these plots; the data are from Berry (1996); all data are in the approximate number of desert tortoises of all sizes per square mile.

	Stoddard Valley	Lucerne Valley	Johnson Valley
1980		176	114
1981	146		
1986		150	80
1987	178		
1990		82	18
1991	225		
1994		73	73

Berry (1996) notes that, for various reasons, surveys at the Stoddard Valley plot encountered various difficulties; some desert tortoises from this plot were taken by poachers and at least one animal became ill with upper respiratory tract disease and contained environmental contaminants. Common ravens and feral dogs have killed desert tortoises at the Lucerne Valley plot; Berry (1998) notes that little recruitment into adult size classes was occurring. Berry (1996) notes that at least two desert tortoises from the Johnson Valley plot were killed by off-road vehicle use or cattle; at least one ill and salvaged animal contained environmental contaminants.

Vicinity of the Superior-Cronese Desert Wildlife Management Area

The proposed Superior-Cronese Desert Wildlife Management Area is located north of the Ord-Rodman Desert Wildlife Management Area; two interstate freeways and rural, urban, and agricultural development separate them. No permanent study plots have been established in this area; the density of desert tortoises has been estimated through numerous triangular transects and line distance sampling efforts. The recovery plan notes that this desert wildlife management area supports densities of approximately 20 to 250 desert tortoises per square mile. The survey work conducted by the Bureau from 1998 to 2001 indicated that the western portion of the proposed Superior-Cronese Desert Wildlife Management Area did not contain any high density areas; desert tortoises seemed to be concentrated in the south-central portion of the proposed desert wildlife management area and along portions of the southern boundary of Fort Irwin.

Vicinity of the Fremont-Kramer Desert Wildlife Management Area

The proposed Fremont-Kramer Desert Wildlife Management Area is located west of the Superior-Cronese Desert Wildlife Management Area; the two desert wildlife management areas are contiguous. The recovery plan notes that the estimated density of desert tortoises in this area was 5 to 100 animals per square mile (Service 1994c). The southern portion supported the vast majority of the high density areas in the proposed Fremont-Kramer Desert Wildlife Management Area, as determined during the survey work conducted by the Bureau from 1998 to 2001.

Five permanent study plots are located within this proposed desert wildlife management area; one plot, the Interpretive Center plot at the Desert Tortoise Natural Area, is split into two subplots. The following table contains the density estimates for these plots; the data are from Berry (1996); all data are in the approximate number of desert tortoises of all sizes per square mile.

	Fremont Valley	Desert Tortoise Natural Area, Interior	Desert Tortoise Natural Area, Interpretive Center		Fremont Peak	Kramer Hills
			Inside Fence	Outside Fence		
1979		387	339	296		
1980					99	223
1981	278					
1982		332				314
1985			229	134	45	
1987	179					130
1988		195				
1989			106	80	32	
1991	101					60
1992		47				

1993			61	42	8	
1995						139
1996		18				
1997		8*	34#	23#		
2001	19*					
2002			28#	10#		

* These values represent the actual numbers of desert tortoises found on the plot and do not represent a density estimate; the data are from Berry (pers. comm. 2005).
# These data are from Connor (2003).

Berry (1996) notes that the overall trend in this proposed desert wildlife management area is "a steep, downward decline" and lists predation by common ravens and domestic dogs, off-road vehicle activity, illegal collecting, upper respiratory tract disease, and environmental contaminants as contributing factors.

Summary of the Status of the Desert Tortoise in the Action Area

A decline in numbers of desert tortoises in the Western Mojave Recovery Unit can be quantitatively demonstrated. Between 1971 and 1980, 27 plots were established in California to study the desert tortoise; 15 of these plots were used by the Bureau to monitor desert tortoises on a long-term basis (Berry 1999). Generally, the plots were visited at roughly 4-year intervals to determine the numbers of desert tortoises they supported. Desert tortoises found on these plots during the spring surveys were registered; that is, they were marked so they could be identified individually during subsequent surveys. The Desert Tortoise Recovery Plan Assessment Committee (Tracy et al. 2004) evaluated data from long-term study plots in the western Mojave Desert and concluded that the population densities of adult desert tortoises exhibited a significant downward trend ($P < 0.0001$) from approximately 1975 through 2000.

Status of Critical Habitat of the Desert Tortoise within the Action Area

In the last 10 years, the Bureau has acquired more than 500,000 acres of private lands in critical habitat of the desert tortoise and wilderness areas through the California Desert Conservation Area (LaPre 2005f). These acquisitions have improved the ability of the Bureau to manage critical habitat of the desert tortoise within the California Desert Conservation Area. Additionally, to offset the impacts of the use of additional training lands at Fort Irwin, the Army has acquired slightly more than 99,000 acres within the Superior-Cronese, Fremont-Kramer, and Ord-Rodman critical habitat units (Kernek pers. comm. 2005); these lands are interspersed among public lands generally to the south and southwest of Fort Irwin. We mention these facts here because these lands have been acquired in all the recovery units in the California Desert Conservation Area; the Army's acquisitions have also contributed to the manageability of the critical habitat units in the Western Mojave Recovery Unit.

Ord-Rodman Critical Habitat Unit. The Ord-Rodman Critical Habitat Unit covers approximately 254,142 acres. The Bureau manages approximately 202,845 acres of this area;

the State of California manages 3,245 acres. Approximately 47,483 acres are privately owned (LaPre 2005d).

Two livestock allotments lie within the boundaries of the Ord-Rodman Critical Habitat Unit. The Bureau (2004c) provided the following information regarding grazing in this critical habitat unit. Large portions of the Ord Mountain Allotment are located at 4,000 feet or higher in elevation; although the Service conducts line distance sampling up to elevations of 4,200 feet, most desert tortoises reside at elevations between 1,000 and 3,000 feet (Luckenbach 1982). A visual comparison of preliminary data points from line distance sampling (Everly 2005) and elevation maps of the Ord Mountain Allotment (Bureau 2004b) indicates that few desert tortoises have been detected at elevations over 4,000 feet. Although the areas over 4,000 feet in elevation are within the boundaries of the Ord-Rodman Critical Habitat Unit, they likely do not support the primary constituent elements of critical habitat on a widespread basis.

Two out of the five key areas on the Ord Mountain Allotment are located below 4,000 feet in elevation; consequently, these areas are of interest in assessing the baseline conditions of this critical habitat unit relative to grazing. Key Area #1 had utilization levels ranging from 10 to 50 percent on key species; the average utilization level over a 12-year period is 21 percent, which the Bureau characterizes as light. From 1988 to 1994, utilization at Key Area #5 ranged from 2.5 to 10 percent, with an average of 3 percent; the Bureau characterizes this level as non-use.

Between 1995 and 1997, the Bureau conducted utilization transects at sites other than the key areas. Most of the transects were located above 4,000 feet; however, two sites located in the southwest portions of the allotment are located below 4,000 feet and within critical habitat. Utilization levels at these two sites ranged from 12 to 68 percent, with an average close to 50 percent.

The Bureau estimates that cattle are present within critical habitat over 90 percent of the year, although 75 percent of the area they occupy is above 4,000 feet in elevation. All of the developed water sources are within critical habitat. Between 1990 and 2003, the number of head of cattle within the allotment has ranged from 145 to 385. In 6 of those years, more than 300 head were present; less than 200 were present during 4 years.

Over the last 12 years, the overall densities of key species, especially perennial bunch grasses, have decreased. Galleta grass (*Hilaria rigida*) and spiny hopsage (*Grayia spinosa*) at Key Area #1 have all but died off, probably resulting from a combination of prolonged drought and overgrazing. Desert needlegrass (*Stipa* spp.) occurs primarily within the protection of shrubs and is rarely found in inter-shrub spaces; the lack of this perennial bunchgrass in inter-shrub spaces may be an indication of the amount of grazing pressure.

Unless otherwise noted, the information in the following paragraphs is from LaPre (2005a). The Ord-Rodman Critical Habitat Unit contains three active utility corridors. Corridor G, which is 2 miles wide, lies along Interstate 40 at the northern boundary; most of the facilities associated

with the one 30-inch pipeline in this corridor are placed outside the critical habitat unit. Corridor D is 2 miles wide; it contains two 287-kilovolt power lines and one 500-kilovolt power line. Corridor H contains one 34-inch pipeline; it is 2 miles wide.

Several off-highway vehicle routes are found within the Ord-Rodman Critical Habitat Unit, which is situated between the Johnson Valley and Stoddard Valley off-highway vehicle management areas. The Western Mojave Off-Road Vehicle Designation Project, completed by the Bureau in June 2003, designated all routes as open, closed or limited in use within the critical habitat unit. The Service issued a biological opinion for this recreational use in 2003 (1-8-03-F-21, Service 2003b); this consultation evaluated the effects of route designation throughout the western Mojave Desert, including the other three critical habitat units in the Western Mojave Recovery Unit.

The Newberry Mountains Wilderness, which includes 26,453 acres, is located entirely within the critical habitat unit. The 34,315-acre Rodman Mountains Wilderness is also located within the Ord-Rodman Critical Habitat Unit.

Fremont-Kramer Critical Habitat Unit. The Fremont-Kramer Critical Habitat Unit is approximately 518,000 acres in size. The following information regarding land ownership is from LaPre (2005d). The critical habitat unit includes 65,483 acres within Edwards Air Force Base, which is outside of the action area of this biological opinion. The Bureau manages approximately 283,710 acres of this area. The State Lands Commission manages 457 acres. Approximately 163,857 acres are privately owned.

The California Department of Fish and Game's Fremont Valley Ecological Reserve consists of 1,090 acres in 5 properties. The California Department of Fish and Game also manages the West Mojave Desert Ecological Reserve, which consists of 22 properties totaling 11,817 acres northeast of Kramer Junction. The parcels managed by the California Department of Fish and Game are scattered within public lands and are thus considered to be within the action area.

The California Desert Conservation Area Plan of 1980 designated lands north of California City in Kern County as an area of critical environmental concern and a research natural area. The Desert Tortoise Research Natural Area, which includes 25,695 acres, is managed jointly by the Bureau, California Department of Fish and Game, and the Desert Tortoise Preserve Committee, a non-profit group established to acquire and manage lands for protection of the desert tortoise. The northern portion of the Desert Tortoise Research Natural Area (3,045 acres) is within the Fremont-Kramer Critical Habitat Unit.

Approximately 174 acres of the Golden Valley Wilderness is included within the Fremont-Kramer Critical Habitat Unit, just outside the southwestern corner of the U.S. Navy's Mojave B Range. The remaining wilderness extends the protected habitat to the northwest.

In past years, sheep grazed this critical habitat unit in several allotments. No sheep grazing has occurred within the vast majority of the critical habitat unit since at least the early 1990s, as a result of section 7(a)(2) consultations between the Bureau and Service. A portion of the Pilot

Knob Allotment, which was grazed by cattle, overlies this critical habitat unit. It has not been grazed for approximately 10 years; the private interests in that allotment have been acquired by a conservation group.

Contingent corridor P, which is 2 miles wide, traverses the critical habitat adjacent to Highway 395; this corridor contains two 115-kilovolt power lines, a coaxial cable, and a 12-inch pipeline. Utility corridors G and Q cross the Fremont-Kramer Critical Habitat Unit. Corridor G is 2 miles wide and contains a 30-inch pipeline. Corridor Q is also 2 miles wide; it contains a 12-inch pipeline.

Several popular off highway vehicle routes are found within the Fremont-Kramer Critical Habitat Unit. The Rand Mountains, which are located between the Desert Tortoise Research Natural Area on the west and the Rand Mining District on the east, are extremely popular with off-highway vehicle users. The Bureau has expended considerable effort to control recreational use in this area.

Superior-Cronese Critical Habitat Unit. The Superior-Cronese Critical Habitat Unit is approximately 772,000 acres in size. The following information regarding land ownership is from LaPre (2005d). Approximately 189,304 acres are within military bases, which are outside of the action area of this biological opinion. The Bureau manages approximately 380,592 acres of this area. The State Lands Commission manages 5,530 acres; the California Department of Fish and Game manages 3,861 acres. Approximately 192,237 acres are privately owned.

The critical habitat unit is contiguous with critical habitat on the Mojave B Range of the Naval Air Weapons Station and the Fort Irwin National Training Center; however, these areas, which include 201,914 acres, are outside of the action area of this biological opinion. The Air Force's Cuddeback Gunnery Range, which is no longer in use, is entirely contained within critical habitat.

A small portion of utility corridor BB is within the southeast portion of the Superior-Cronese Critical Habitat Unit. Corridor BB is an east-west corridor, 3 miles wide, which follows Interstate 15. Major utilities located in this corridor include one 131- kilovolt transmission line, two gas pipelines, and two fiber optic cables. This corridor also includes Interstate 15. The 2-mile wide Boulder Corridor (Corridor D) also traverses this critical habitat unit. The 5-mile wide corridor Q also runs east-west through the critical habitat unit.

Several popular off-highway vehicle routes are found within the Superior-Cronese Critical Habitat Unit. Cultural sites include the 61,805-acre Black Mountain Cultural Area and the 898-acre Calico Early Man Site. The Rainbow Basin/Owl Canyon area contains a campground and highly eroded geological formations; this 4,087-acre site is popular with visitors.

The Black Mountain Wilderness overlaps 20,929 acres of the critical habitat unit. The Grass Valley Wilderness consists of 32,835 acres. Both of these wilderness areas are entirely within the critical habitat unit. Approximately 1,715 acres of the Golden Valley Wilderness are within

the Superior-Cronese Critical Habitat Unit; the remainder of the 37,700 acres adjoins the critical habitat unit on its northern edge.

Pinto Mountain Critical Habitat Unit. The Pinto Mountain Critical Habitat Unit is approximately 171,700 acres in size. The following information regarding land ownership is from LaPre (2005d). Joshua Tree National Park includes 19,329 acres within this critical habitat unit; however, it is outside of the action area of this biological opinion. Approximately 111,668 acres of the critical habitat unit are within the planning area for the West Mojave Plan; the remainder of the critical habitat unit lies within the boundaries of the Northern and Eastern Colorado Desert Coordinated Management Plan. The Bureau manages approximately 103,771 acres of this area. The State of California owns 5,633 acres; the State Lands Commission, California Department of Fish and Game, and California Department of Parks and Recreation manage these lands. Approximately 2,264 acres are privately owned.

Within the public lands, the Bureau manages 683 acres as Class C and 109,510 acres as Class M. This area currently does not contain any Class L or I lands. Unclassified lands comprise 1,502 acres.

The northwestern corner of the critical habitat unit is within the city of Twentynine Palms. This segment contains nearly all of the private land within the Pinto Mountain Critical Habitat Unit.

This area represents a transition between Colorado Desert and Mojave Desert flora and fauna. Wash species include smoke trees (*Dalea spinosa*), palo verdes (*Cercidium* spp.), and ironwoods (*Olneya tesota*). Ocotillo and barrel cacti are present, though these species are more common to the south.

This critical habitat unit does not contain any livestock allotments or utility corridors. Off-highway vehicle routes are utilized primarily by prospectors, rockhounds, and claimholders.

Most of the Pinto Mountain Critical Habitat Unit is within the Old Dale Mining District. Many small-scale historical mines are present.

A small portion of the Sheephole Valley Wilderness lies within the critical habitat unit. It occupies approximately 683 acres.

Summary of the Status of Critical Habitat of the Desert Tortoise in the Action Area

The four critical habitat units within the Western Mojave Recovery Unit contain numerous types of habitats, cover the full range of the elevations used by desert tortoises, and are subject to varying degrees of human use. The proximity of the Los Angeles Basin is responsible for making the Western Mojave Recovery Unit important to recreational users and economic interests. Despite this level of use, large areas of critical habitat in the western Mojave Desert remain undisturbed. We base this statement on information provided by the Bureau that was gathered in support of the West Mojave Plan. Using aerial photographs from 1994 of the proposed desert wildlife management areas in the planning area for the western Mojave Desert

region, the Bureau used numerous conservative calculations (i.e., it erred on the side of overestimating the amount of disturbance) and concluded that approximately 1.3 percent of the proposed desert wildlife management areas has been disturbed to date (LaPre 2005c). We acknowledge that the critical habitat units and desert wildlife management areas do not overlap completely; however, this information comprises the best available data with regard to surface disturbance in the planning area. At this level of disturbance, we anticipate that the critical habitat units should function fully to support the conservation of the desert tortoise.

We have historically measured the degree of functionality of the primary constituent elements of critical habitat of the desert tortoise by evaluating the amount of ground disturbance. In recent years, however, research conducted by Oftedal (2005) indicates that other, more subtle changes in some of the primary constituent elements may also be important. Oftedal postulates that changes in the composition of annual plants, from certain native species that are high in protein and water to less nutritive non-native species, may be placing desert tortoises in a state of chronic stress. At this time, we continue to consider that evaluation of the degree of ground disturbance is the most pertinent indicator of the health and status of the critical habitat units; however, we should closely track the development of new information with regard to environmental factors and how they may affect the physiology of desert tortoises.

EFFECTS OF THE ACTION ON THE DESERT TORTOISE AND ITS CRITICAL HABITAT

Methodology

We conducted our analysis in a stepwise fashion. We began our analysis with a general description of how various anthropogenic activities could affect the desert tortoise and its habitat, including the primary constituent elements of its critical habitat.

We then analyzed the effects of the actions proposed in the amendment to the California Desert Conservation Area Plan for the western Mojave Desert. We did not analyze the effects of any site-specific future actions that are beyond the scope of this plan amendment. As the California Desert Conservation Area Plan notes, site-specific actions may be allowed after they are analyzed pursuant to the National Environmental Policy Act; the Bureau must also comply with section 7(a)(2) of the Act when it is considering these future actions. Because the California Desert Conservation Area Plan also provides the fundamental authorization for many ongoing activities, such as casual recreational use, that do not require site-specific analysis by the Bureau, we analyzed the effects of this type of activity. We conducted our analysis of all of these effects, whether beneficial or adverse, to the desert tortoise and its critical habitat within the action area in relation to its survival and recovery needs and to the function of designated critical habitat, respectively.

We note that the Bureau's proposed action includes many types of actions that may affect the desert tortoise and its critical habitat over a very large area. In such cases, we frequently do not have extensive data upon which to base our analyses. In developing this biological opinion, we used the best available information as described and required by the implementing regulations for section 7(a)(2) of the Endangered Species Act. Specifically, 50 *Code of Federal Regulations*

402.14(d) requires the Federal agency requesting formal consultation to provide us "with the best scientific and commercial data available or which can be obtained during the consultation for an adequate review of the effects that an action may have upon listed species or critical habitat." The consulting Federal agency bears the responsibility, "to the extent practicable," to obtain the requested data "which can be developed within the scope of the extension" (50 *Code of Federal Regulations* 402.14(f)). Finally, 50 *Code of Federal Regulations* 402.14(g)(8) states that "In formulating its biological opinion, any reasonable and prudent alternatives, and any reasonable and prudent measures, the Service will use the best scientific and commercial data available and will give appropriate consideration to any beneficial actions taken by the Federal agency or applicant, including any actions taken prior to the initiation of consultation."

The Bureau will consult on each future action that it proposes to approve, undertake, or fund, pursuant to the requirements of section 7(a)(2) of the Act, if the action may affect a listed species or critical habitat. Although this biological opinion may conclude that the proposed amendment of the California Desert Conservation Area Plan is not likely to jeopardize the continued existence of the desert tortoise or adversely modify its critical habitat, a specific action may be proposed in the future that could result in a finding of jeopardy or adverse modification of critical habitat. Such a circumstance could occur when permit applications contain project-specific details that cannot be evaluated at this programmatic level.

Finally, we have indicated, in the Effects to the Desert Tortoise sections of the following analyses, whether the action being discussed is fundamentally authorized by the California Desert Conservation Area Plan or whether future approvals by the Bureau are required. In the former case, the action will become effective with the signing of the record of decision for the West Mojave Plan (e.g., establishment of the desert wildlife management areas) or is a casual use (e.g., individuals driving vehicles on routes that are designated as open). In the latter case, the Bureau has discretionary authority over the implementation of future actions (e.g., mining plans of operation).

General Effects of Human Activities on the Desert Tortoise and its Critical Habitat

Numerous activities are likely to occur as a result of implementing the management actions proposed in the West Mojave Plan. These activities have the potential to adversely affect the desert tortoise and its critical habitat by: injuring or killing individuals; disrupting their breeding, feeding, or sheltering behavior; and by disturbing or degrading the primary constituent elements of critical habitat.

Effects of Human Activities on the Desert Tortoise

Vehicles that are driving on paved and unpaved roads and cross-country can strike desert tortoises (Boarman and Sazaki 1996). Cross-country travel can also result in the destruction of burrows; desert tortoises could either be trapped inside the burrows or find them unavailable when they are needed to escape predation or extreme weather conditions. In general, cross-country travel occurs less frequently than travel on roads but can cause substantial impacts

because of the presence of burrows and the greater difficulty in detecting and avoiding desert tortoises.

In most areas on public lands within the planning area, the Bureau has restricted the use of vehicles to designated routes; consequently, cross-country travel should not occur in most areas on a casual basis. The final environmental impact report and statement notes, however, that cross-country travel was observed on 833 of 1,572 (53 percent) transects that were conducted to assess the distribution of desert tortoises within the Fremont-Kramer and Superior-Cronese desert wildlife management areas. This unauthorized use, which can affect the desert tortoise as we described previously in this section of the biological opinion, is an indirect effect of the authorized access that the Bureau provides through its system of open routes.

Whether it is on a road or not, hatchling desert tortoises are the most difficult individuals to detect. Hatchlings may be somewhat less susceptible to being killed on roads because their territories are presumably smaller, they may move around less, and therefore be less likely to encounter a road. On the other hand, their propensity to be more active during cooler times of the year may extend the periods during which they are at risk of vehicle strikes.

We are unaware of any research that conclusively shows the density at which roads would be likely to extirpate desert tortoises from a region; based on their research, Hoff and Marlow (2002) contend that a large portion of an area conserved for desert tortoises in Nevada is degraded by heavily used roads. Although they showed that less frequently traveled unpaved roads also affect the distribution of desert tortoise sign, we cannot extrapolate this information directly to roads elsewhere because of varying factors, such as the amount of traffic, the density of desert tortoises, and probably, to some extent, the local terrain. Intuitively, fewer desert tortoises are likely to be killed if fewer roads are available for travel. Factors other than density also likely enter into the effects of roads; for example, few desert tortoises are likely killed on a lightly used road but this number may rise if the road becomes more heavily used as a result of closures elsewhere. Conversely, at some point, vehicle use on roads (combined with other activities that accompany vehicle use) would likely reduce the number of desert tortoises to a point where the level of mortality also decreases, simply because fewer desert tortoises live in the region. At the present time, desert tortoises seem to have become so rare in areas where they were formerly abundant that they are unlikely to be struck by vehicles.

Although desert tortoises are generally more easily observed on roads, vehicles can travel at increased speed that again reduces the ability of drivers to detect and avoid desert tortoises. Rises and turns in roads also decrease the ability of drivers to detect desert tortoises. The actual level of injury or mortality that would occur along a specific road will be influenced by many variables and is difficult to predict; the level and type of use of the road by vehicles and the number of desert tortoises present during periods of heavy use are two of the primary factors that are difficult to predict. Mortality associated with vehicle strikes, both on and off roads, will be greatest in the spring and fall, in areas where desert tortoises are most common. Along heavily used roads, the number of desert tortoises is depressed for some distance from the edge of the road as a result of road-associated mortality; this distance varies with the level of use of the road. For example, Hoff and Marlow (2002) found that "reductions in (desert) tortoise sign are easily

detectable more than (2.48 miles) from the roadway" on heavily used paved roads. They also found "evidence from unpaved utility access roads … that even lower traffic levels may have a significant detectable impact." Of the roads that Hoff and Marlow (2002) investigated, only a poorly maintained paved road, with a traffic volume of approximately 25 vehicles per day seemed to have no effect on the distribution of sign of the desert tortoise.

In the western Mojave Desert, the Bureau has authorized the use of some washes as designated routes of travel; vehicles using washes may kill or injure desert tortoises. The risk to desert tortoises of being struck by a vehicle while in a wash may be different than that associated with a road. For example, desert tortoises are likely more difficult to see when they are in washes because of the generally greater variation in contours and substrates in washes as compared to those on roads; desert tortoises likely also spend more time in washes than on roads because washes support resources that they require, such as shrubs for cover and annual plants for forage. However, vehicles traveling on roads usually do so at greater speeds than can be used in washes, thus reducing the ability of the driver to see desert tortoises; finally, more vehicles use roads than washes. Note that these statements are generalizations and exceptions likely apply to each statement. Desert tortoises may use washes to varying degrees in different portions of their range; therefore, the likelihood that any given wash supports desert tortoises at densities greater than the surrounding desert would depend on the location of the wash.

The final environmental impact report and statement contains additional discussion regarding the effects of roads on desert tortoise populations. It reaches the conclusion that, despite many studies showing reduced numbers of desert tortoises near roads, an absolute connection between the presence of roads and the status of the desert tortoise is difficult to make. For example, the presence of other factors in the area, such as sheep grazing and disease, may also contribute to local declines in the number of desert tortoises. Regardless of the difficulty in linking declines in the status of desert tortoise populations to the effects of vehicle use, the final environmental impact report and statement notes that, in two surveys, vehicles were responsible for crushing 28 of 104 (27 percent) and 14 of 44 (32 percent) desert tortoises where the cause of death could be ascertained. Consequently, based on this information, the level of mortality of desert tortoises attributable to vehicles is not insignificant.

Desert tortoises would be at risk during the construction, operation, and maintenance phases of any projects that would employ large equipment. Animals can be crushed on the ground's surface, trapped in their burrows, and buried in overburden piles. During the construction of the Kern and Mojave pipelines, numerous desert tortoises were killed by vehicles traveling to and from the project sites on the rights-of-way; although this mortality was not directly caused by the heavy equipment at the construction sites, the right-of-way traffic was occurring in direct support of that activity.

Because of their small size, hatchlings and slightly larger desert tortoises could be trampled by foot traffic of people working or recreating in the desert. Nests are also vulnerable, but their typical location, near the mouth of a burrow, likely protects them to some degree.

Desert tortoises have died as a result of other factors associated with human activities. They have fallen into trenches that were excavated for various types of projects and into mine shafts. Approximately 45 desert tortoises were rescued from abandoned mine shafts on one weekend in the El Paso Mountains in 1983 (Aardahl pers. comm. 2005); in the mid-1990s, we heard of similar rescues of smaller numbers of desert tortoises from mining excavations near Daggett Ridge. Improperly constructed cattle guards can also trap smaller individuals. Desert tortoises have become entangled in netting or wire. Desert tortoises may seek shelter in the shade of vehicles and be crushed when those vehicles are subsequently moved. Improper disposal of food wastes and trash often attracts predators of the desert tortoise, especially common ravens. Pet dogs brought onto public lands by recreationists or workers associated with specific projects can disturb, injure, or kill desert tortoises. Desert tortoises have also been found trapped in guzzlers and between the rails of a railroad track.

Some ill, dying, and recently dead desert tortoises have been found to contain elevated levels of potential toxicants, such as cadmium, chromium, mercury, nickel, and lead (Jacobson et al. 1991, Homer et al. unpublished data in Chaffee and Berry 1999). Chaffee and Berry (1999) compared concentrations of elements found in plants and soils and found elevated concentrations of cadmium, potassium, and zinc in all plants; other elements, such as chromium, nickel, and selenium were enriched only in certain plants. Because desert tortoises seem to forage selectively on certain plant species, they may eat or avoid those species containing elevated levels of potential toxicants. They also found anomalous concentrations of arsenic, which could be toxic to desert tortoises in large quantities, near areas that have been mined for gold; arsenic occurs in some gold ores. Avery (1998) notes that concentrations of heavy metals, such as chromium, iron, copper, zinc, and aluminum, were higher in Mediterranean grass (*Schismus barbatus*) than in evening-primrose (*Camissonia boothii*), four o'clocks (*Mirabilis bigelovii*), or filaree (*Erodium cicutarium*). Avery (1998) found that Mediterranean grass had greater concentrations of chromium, iron, copper, zinc, and aluminum than the latter three species. He speculated that, because its fibrous roots are near the surface of the soil, it may accumulate heavy metals that are deposited from airborne pollution more readily than the other species, which have tap roots. Mediterranean grasses (*S. barbatus* and *arabicus*) are widely distributed, non-native plants that are common in disturbed soils and readily consumed by desert tortoises. To date, although desert tortoises seem to have been exposed to elevated levels of potentially toxic elements, we do not know if this exposure has caused any adverse effects.

The use of pesticides could result in direct mortality of desert tortoises; we are unaware of specific studies regarding the effects of pesticides on the desert tortoise. Herbicides may reduce or eliminate the abundance of plants that the desert tortoise uses for forage or shelter; other pesticides could reduce the abundance of pollinators, which, in turn, could reduce the germination success of plant species that are important to the desert tortoise. Both the active ingredient and surfactants may be toxic to desert tortoises, plant species that it uses for forage and shelter, and the pollinators of these plant species.

Through legitimate and authorized use of desert lands, people make contact with desert tortoises. This contact can lead to uninformed or malicious interactions that result in injury or mortality of desert tortoises. For example, unauthorized handling or restraint of a desert tortoise could induce

physiological stress that reduces the animal's ability to withstand high temperatures. Desert tortoises are occasionally killed by gunshots. Some mortality associated with gunshots may be accidental; however, most are probably intentional simply because of the low likelihood of a bullet randomly striking a desert tortoise. Although this consultation addresses only legal actions that are implemented or authorized by the Bureau, the access provided by the Bureau's authorizations can increase the number of adverse interactions between desert tortoises and people.

The presence of people in the desert has provided subsidies that allow at least some species, including some predators of the desert tortoise, to be present in greater numbers than they were prior to the development of cities, towns, agriculture, and other human features. Perhaps most importantly, the number of common ravens in the Mojave Desert increased ten-fold between 1968 and 1992 (Boarman and Berry 1995). Common ravens find human-produced subsidies in many forms; they nest on power pylons, drink at artificial water sources, and eat road-killed animals, refuse at landfills, and the products of agricultural areas. Activities that the Bureau authorizes under the auspices of the California Desert Conservation Area Plan have the potential to add to these subsidies. Although alterations to habitat have increased the number of common ravens, we included a discussion of these in this section because the indirect impact of subsidies to the desert tortoise is an increased level of predation, which was, as we mentioned in the Status of the Species section of this biological opinion, one of the factors that influenced the listing of the species as threatened.

Human activities in the desert increase the spread of non-native plants. These species can increase the ability of the desert to carry wild fires (Lovich and Bainbridge 1999). Desert tortoises are not adapted to fire; consequently, fires could result in a substantial loss of desert tortoises.

In summary, desert tortoises may be killed or injured by a wide variety of human activities that the Bureau can authorize under the auspices of the West Mojave Plan. The number of desert tortoises that may be killed or injured by any given activity depends on a variety of factors. The nature of the activity, its location and timing, and the density of desert tortoises in the action area are key factors that affect the number of animals that may be killed or injured. Given the broad nature of this consultation, we are unable to estimate the number of desert tortoises that may be killed or injured. However, we note that, because desert wildlife management areas and critical habitat were established to include the largest aggregations of desert tortoises, activities occurring in these areas are generally more likely to kill or injure desert tortoises than those occurring outside their boundaries.

Finally, to restate the methodology we are using in this biological opinion, the discussion in this section provided a general overview of the effects of human activities on the desert tortoise; we did not intend for this overview to address the scale or intensity of potential impacts associated with implementation of specific activities proposed in the West Mojave Plan. A complete analysis of the actions proposed in the West Mojave Plan, including addressing the scale of the potential effects, is contained in the Effects of the West Mojave Plan on the Desert Tortoise and its Critical Habitat section of this biological opinion.

Effects of Human Activities on Critical Habitat

The final rule designating critical habitat for the desert tortoise describes the specific primary constituent elements of its critical habitat. These primary constituent elements are: sufficient space to support viable populations within each of the six recovery units and to provide for movement, dispersal, and gene flow; sufficient quality and quantity of forage species and the proper substrate conditions to provide for the growth of these species; suitable substrates for burrowing, nesting, and overwintering; burrows, caliche caves, and other shelter sites; sufficient vegetation for shelter from temperature extremes and predators; and habitat protected from disturbance and human-caused mortality (59 *Federal Register* 5820).

The implementation of the guidelines and elements of the California Desert Conservation Area Plan can remove, disturb, or fragment habitat of the desert tortoise, including the primary constituent elements of critical habitat. We conducted the following analysis by generally using the primary constituent elements as the basis for our discussion.

Note that, regardless of whether a specific area is within the boundaries of critical habitat, various activities generally affect the physical and biological attributes of habitat that supports desert tortoises in the same manner. In the analysis that follows and throughout the biological opinion, we discuss how the primary constituent elements of critical habitat of the desert tortoise may be affected by various activities. The same principles apply to suitable habitat that has not been designated as critical by the Service. Therefore, for example, livestock grazing has the same general effects on desert tortoise habitat, regardless of whether that habitat has been designated as critical. For the purposes of this biological opinion, we do not consider the effects on habitat outside of critical habitat in our conclusions regarding any effects to designated critical habitat.

Sufficient space to support viable populations within each of the six recovery units and to provide for movement, dispersal, and gene flow. This primary constituent element addresses the need to conserve sufficiently large areas to maintain the ecological processes that are necessary to support the recovery of the species. The final rule designating critical habitat also notes that these large reserve areas allow desert tortoises to move, disperse, and maintain gene flow.

We will conduct a specific analysis of the desert wildlife management areas proposed by the Bureau and the means by which the Bureau proposes to maintain the viability of these areas later in this document. At this point in our review, we note that the implementation of the West Mojave Plan has the potential to reduce the amount of space that is available to the desert tortoise to recover. Such reductions can result from disturbance or removal of habitat by a variety of means and scales. For example, the installation of a small informational kiosk at the side of a road to provide information to recreationists may cause the loss of a few hundred square feet of suitable habitat. However, this loss, in and of itself, is inconsequential in relation to the acreage of suitable habitat in any given desert wildlife management area; in fact, the possibility exists that the benefits to the desert tortoise of a more informed public may outweigh any adverse effects of the habitat loss.

Conversely, removal of habitat on a sufficiently large scale can eliminate the ability of entire regions to support desert tortoises. In the worst cases, such large removals may also fragment and isolate additional aggregations of desert tortoises. Such isolation or fragmentation reduces the ability of desert tortoises to move over large areas in response to changes in habitat conditions, prevents genetic interchange, and substantially reduces the likelihood of the re-establishment of desert tortoises in the event of local extirpations. Desert tortoises may be substantially isolated from larger populations by natural features, such as mountain ranges or low valleys, or, in more limited circumstances, by canals, roads, and other human activity. Although the adverse effects of isolation are likely to outweigh the benefits over the long term, isolated groups of desert tortoises may be less susceptible to the transmission of disease on a short-term basis. Few areas that support desert tortoises are likely completely isolated from all other populations. For example, desert tortoises occasionally cross even the busiest roads during periods of low traffic or when assisted by concerned motorists.

Heavily used roads, even if they do not pose a physical barrier to desert tortoises, cause fragmentation because animals cannot cross them safely. Some roads, such as Highway 58, have been fenced to exclude desert tortoises and fitted with underpasses that allow animals to move from side to side; such roads may reduce mortality levels and allow passage of animals to the degree that the potential has increased for the desert tortoise to recover in these areas (Boarman et al. 1998).

Unpaved roads that are used infrequently likely do not pose a threat of fragmentation. However, ongoing road maintenance can lower the bed of the road and raise berms to a degree that desert tortoises which enter the roadway cannot exit. These animals are subsequently threatened with predation, exposure to extreme temperatures, collection, and collision with vehicles.

Sufficient quality and quantity of forage species and the proper substrate conditions to provide for the growth of these species; and sufficient vegetation for shelter from temperature extremes and predators. We have combined a discussion of the potential effects of implementation of the West Mojave Plan on these two primary constituent elements because they both deal with the plant communities that support desert tortoises; additionally, the effects are similar in that the disturbance or removal of annual and perennial plants often occurs as a result of the same activities.

The most direct and obvious potential effect of the implementation of the West Mojave Plan is the direct removal of annual and perennial plants that desert tortoises use for food and cover. When such effects occur within the boundaries of critical habitat, the specific primary constituent elements that may be affected are the quality and quantity of forage species, the proper substrate conditions to provide for the growth of these species, and vegetation for shelter from temperature extremes and predators. Simply stated, the disturbance or removal of annual plants and shrubs reduces the ability of the desert tortoise to find food and shelter. Without a diverse assemblage of plant species upon which to forage, desert tortoises cannot maintain an appropriate nutritive balance (Oftedal 2005); without the cover of shrubs, desert tortoises are more vulnerable to predators and the temperature extremes that are common in the desert. Note that the discussion of the effects of livestock grazing on desert tortoises and their habitat, which is located under the

analysis of the livestock grazing element, contains a more detailed evaluation of the relationship between desert tortoises and their habitat.

Numerous activities can result in the removal or disturbance of vegetation at varying scales and intensities. For example, parking of vehicles off of established routes may crush shrubs or annual species and affect smaller amounts of habitat on a relatively short-term scale. Large-scale mines, on the other hand, generally cause the complete removal of plant communities over substantial areas, most likely on a permanent basis. Note that the degree of restoration at a large mine is subject to some variation; substantial efforts to restore habitat have occurred at Viceroy Mine in the eastern Mojave Desert but reclaiming as habitat the pit made by U.S. Borax at Boron is likely impossible.

In general, short-term disturbances that cover small areas likely do not cause an appreciable reduction in the value of habitat to support desert tortoises; however, if such disturbances are repeated numerous times in a localized area, the aggregate effects of this disturbance are likely to result in the complete loss of habitat value. Large-scale removal of habitat renders the area completely unsuitable for desert tortoises; in the worst case, large areas of removal of habitat may fragment and isolate aggregations of desert tortoises.

Suitable substrates for burrowing, nesting, and overwintering; and burrows, caliche caves, and other shelter sites. We have combined a discussion of the potential effects of implementation of the West Mojave Plan on these two primary constituent elements because they both deal with shelter sites; additionally, the potential effects to these primary constituent elements are similar in that the disturbance or removal of shelter sites or the substrates in which they are constructed often occurs as a result of the same activities.

The use of heavy equipment and driving of vehicles off of designated routes causes compaction of substrates. If the level of compaction is sufficient, substrates could become unsuitable for burrowing by desert tortoises. Additionally, the complete removal of all available habitat from an area would preclude the construction of burrows by desert tortoises. If the local area affected by human activities is extensive, desert tortoises may be precluded from using that area on a long-term basis.

Vehicle use or other ground disturbance, such as construction activities, in areas where caliche caves are present can result in the destruction of these shelter sites. Caliche caves are an important resource for desert tortoises; individuals often use the same caves for extended periods of time. Additionally, desert tortoises cannot construct caliche caves as they do burrows; instead, they are dependent upon finding appropriate sites. Consequently, their loss may have a longer term effect on a desert tortoise than the loss of a burrow.

Most burrows of desert tortoises occur in areas that exhibit less topographical relief than do sites where caliche caves are present. Consequently, cross-country travel by vehicles can result in the destruction of burrows.

In general, the loss of shelter sites renders desert tortoises more vulnerable to predation and exposure to the temperature extremes that are common in the desert. Additionally, if desert tortoises spend time constructing new burrows, they are likely less able to seek mates or spend appropriate amounts of time foraging. Potentially, if desert tortoises are frequently forced to construct new burrows, their energy budgets may be adversely affected.

Habitat protected from disturbance and human-caused mortality. The establishment of open routes and development of various facilities have the potential of increasing the degree to which people interact with desert tortoises and of affecting the other primary constituent elements of their critical habitat. Even if proposed actions are planned carefully and potential impacts to desert tortoises and their habitat carefully considered, their proximity to the primary constituent elements increases the potential that some effects, whether direct or indirect, may accrue to critical habitat. In addition, the indirect effects of at least some development activities often lead to increased disturbance of habitat and human-caused mortality (e.g., stray and feral dogs from housing developments kill desert tortoises beyond the foot print of the housing, common ravens attracted to a poorly managed landfill consume desert tortoises for miles around the site); at times, these indirect effects cause more serious and long-term degradation of habitat value than the initial action.

Additional effects of human activities on critical habitat. The final rule designating critical habitat for the desert tortoise did not include a specific primary constituent element that discussed invasive non-native plant species. However, we have recognized that, in recent years, the desert is being continually invaded by such species.

Disturbance of substrates that can result from implementation of many of the elements of the West Mojave Plan can accelerate the spread of invasive non-native plant species by destruction of substrate crusts and cryptogams; these non-native species, in turn, can compete with the native plant species (Lovich and Bainbridge 1999) that the desert tortoise requires for nutrients and shelter. Non-native plants can also increase the ability of the desert to carry wild fires (Lovich and Bainbridge 1999). The plant species upon which desert tortoises depend are not adapted to fire; consequently, fires could severely alter the plant community structure by removing species upon which the desert tortoise is dependent and facilitating the spread of fire-tolerant taxa.

In summary, desert tortoise habitat (including both its critical habitat and other areas not so designated) may be disturbed or removed by a wide variety of human activities that the Bureau can authorize under the auspices of the West Mojave Plan. The amount and quality of the habitat that may be disturbed or removed by any given activity depends on a variety of factors. The nature of the activity, its location, and the quality of the habitat in the action area are key factors that determine the extent and intensity of the effect on the primary constituent elements of critical habitat and habitat of the desert tortoise in general. Given the broad nature of this consultation, we are unable to estimate the amount of desert tortoises that may be disturbed or removed, other than that the Bureau has proposed to limit the amount of new ground disturbance to less than one percent of the area within each desert wildlife management area. However, we note that, because desert wildlife management areas and critical habitat were established in the best quality habitat for desert tortoises, activities occurring in these areas are generally more

likely to disturb or remove habitat that supports desert tortoises than those occurring outside their boundaries. Note that, through the amendments to the California Desert Conservation Area Plan, the Bureau has changed the multiple-use class within desert wildlife management areas from Class M to Class L; as noted previously in this biological opinion, lands within Class L include areas that are managed to provide for lower density, carefully controlled multiple uses of resources while ensuring that sensitive values are not significantly diminished.

Effects of the West Mojave Plan on the Desert Tortoise and its Critical Habitat

The area where the desert tortoise may be affected by the Bureau's proposals includes all public lands within the planning area that have been designated as its critical habitat, plus all public lands upon which it occurs that are outside of the boundaries of critical habitat. These latter areas certainly do not include all public lands in the planning area; for example, the Bureau manages lands, such as in Summit Valley and at Middle Knob, that are well outside the expected range of the species. Because desert tortoises occur so patchily within their range, but particularly so outside of critical habitat, defining a precise action area is difficult. As we noted previously in this biological opinion, non-federal lands that support desert tortoises and are intermixed with public lands are considered to be part of the action area.

Amendment 1, New Areas of Critical Environmental Concern

The Bureau will designate new areas of critical environmental concern to conserve listed species, sensitive species, and areas that protect groups of species or important habitat. The four desert wildlife management areas that will be designated for the desert tortoise (i.e., Fremont-Kramer, Superior-Cronese, Ord-Rodman, and Pinto Mountain) include, in total, 1,023,329 acres of public lands.

The Bureau's general management strategy includes a one percent limit on cumulative ground disturbance within areas of critical environmental concern, adoption of management prescriptions and measures to reduce the effects of proposed projects on the desert tortoise and its critical habitat, a program to reduce predation by common ravens on the desert tortoise, a requirement for project proponents to compensate for loss or disturbance of habitat of the desert tortoise, and numerous other features. These additional features are listed in the Description of the Proposed Action section of this biological opinion and more fully described in the final environmental impact report and statement.

Effects on the Desert Tortoise

The Bureau's designation of areas of critical environmental concern provides the framework to identify clearly the management objectives of these desert wildlife management areas. It also serves as an informational guide to users of the desert that future uses, activities, or management practices must be compatible with the recovery of the desert tortoise. This designation will not have direct, on-the-ground effects, on the desert tortoise; however, it appropriately sets the stage for future management of public lands and the implementation of recovery actions for the desert

tortoise. On that basis, this portion of the West Mojave Plan is very beneficial to the desert tortoise.

In addition to the four desert wildlife management areas, the Bureau's proposal to establish conservation areas for other species may provide some conservation value for the desert tortoise. In the following paragraphs, we do not discuss conservation areas that overlap desert wildlife management areas established for the desert tortoise because they are not likely to provide substantially increased protection.

The Bendire's Thrasher Conservation Area, which lies within the sphere of influence of the Town of Apple Valley in northern Lucerne Valley, includes 8,908 acres of public lands. Within this area, the one percent limitation on new ground disturbance, retention of public lands, and designation of vehicle routes will protect desert tortoises to some degree. The number of desert tortoises within this area is likely relatively low.

A conservation area for the Mojave monkeyflower (*Mimulus mohavensis*) in Brisbane Valley includes 10,633 acres; this entire area comprises lands managed by the Bureau. The Bureau's proposals to retain public lands in this area, designate routes of travel, amend its land tenure adjustment program to remove these public lands from the disposal zone, change the multiple use class from Unclassified and Class I to Class L, implement mitigation and monitoring procedures, and discontinue sheep grazing in this area will improve the likelihood that desert tortoises will persist in this area. Although this parcel is isolated from larger areas of desert tortoise habitat, desert tortoises are likely to persist in this area with the proposed level of management. The Mojave Monkeyflower Conservation Area likely supports at least medium densities of desert tortoises.

Within the 14,224-acre Pisgah Conservation Area, desert tortoises occur in lava flows, which is an uncharacteristic habitat type for this species. The Bureau's proposal to designate routes within the area of critical environmental concern as open or closed, restore or block routes to be closed, and change the multiple use class from M to L will likely reduce threats to desert tortoises in this region. Although the density of desert tortoises in this area is likely not great, maintaining desert tortoises in an area where they exist in an unusual ecological setting, such as the lava flows, is important in conserving the full range of habitats and behavioral adaptations that the species exhibits in the Western Mojave Recovery Unit.

Finally, the Carbonate Endemic Plants Research Natural Area, on the north slope of the San Bernardino Mountains, includes 4,393 acres of lands managed by the Bureau. Within this area, lands will be subject to a standard of no surface occupancy to prevent undue and unnecessary degradation under the surface mining regulations, private lands within the proposed area of critical environmental concern may be purchased or exchanged for Bureau lands in Lucerne Valley, acquired lands will be not be opened to mineral entry, and the multiple use class will change from Class M to L. These changes in the California Desert Conservation Area Plan will benefit the relatively low density of desert tortoises in this area, which are likely to occur at the lower elevations of the area of critical environmental concern. As we mentioned in the previous paragraph, the conservation of desert tortoises in this area is important in conserving the full

range of habitats and behavioral adaptations that the species exhibits in the Western Mojave Recovery Unit because these animals exist at the edge of the natural range of the species.

Limiting the amount of cumulative ground disturbance to one percent of the public lands in each of the desert wildlife management areas will likely ensure that proposed actions do not cause injury to or mortality of a large number of desert tortoises. Conversely, approximately 99 percent of the area inhabited by desert tortoises within the desert wildlife management areas will remain undisturbed; this lack of disturbance to the majority of the area inhabited by desert tortoises should ensure that large numbers of individuals are not disturbed by activities associated with specific projects. The following table depicts the amount of habitat in each of the desert wildlife management areas that may be disturbed and conserved as a result of the proposed action.

Desert Wildlife Management Area [1]	Acres of Habitat to be Conserved	Acres of Habitat that may be Disturbed
Superior-Cronese	610,157	6,163
Fremont-Kramer	489,773	4,947
Ord-Rodman	245,837	2,483
Pinto Mountain	115,949	1,171
Total	1,461,716	14,764

[1] Acreages are based on information in Table 4-6 of the final environmental impact report and statement.

The actions discussed in the preceding paragraphs will be authorized under the California Desert Conservation Area Plan and would become effective upon the Bureau's signing of the record of decision. Consequently, the Bureau and Service will not consult on these issues again, unless the agencies determine that re-initiation of consultation is required, as described at 50 *Code of Federal Regulations* 402.16.

Given the success that the Bureau generally has had in reducing the number of desert tortoises killed or injured during the implementation of proposed actions, combined with these limitations on the amount of activity that will be permitted in these desert wildlife management areas, we anticipate that few desert tortoises are likely to be killed or injured during future project-specific activities. We cannot, at this time, predict how many desert tortoises are likely to die or be injured as a result of actions proposed within the one percent limit on habitat loss or disturbance because we do not know the location of such actions, the number of desert tortoises in these areas, and other specific attributes of any given future action. Such effects will be analyzed in future section 7(a)(2) consultations on specific projects developed under the direction of the California Desert Conservation Area Plan, as appropriate.

Through numerous consultations, the Bureau, Service, and others have developed management prescriptions and protective measures to reduce the effects of proposed projects on the desert tortoise; in general, these measures seem to be effective. The Bureau's adoption of such measures should, in general, ensure that projects implemented throughout occupied habitat of the

desert tortoise in the planning area for the western Mojave Desert are implemented in a manner that reduces adverse effects to individuals. Note that these measures are not actions, in and of themselves, and will be implemented, as necessary, in conjunction with future activities. We cannot, at this time, predict how effective any given measure will be because of the large degree of differing circumstances that surround future actions.

The Bureau's requirement that project proponents compensate for loss or disturbance of habitat of the desert tortoise within desert wildlife management areas at a ratio of five acres of acquisition for every acre adversely affected will promote the conservation of the desert tortoise. This requirement will assist the Bureau in acquiring non-federal lands. Once acquired, the provisions of section 7(a)(2) would be in force; the consultation mandate for Federal agencies provides greater protection to listed species than the prohibitions contained in section 9 of the Act. Additionally, the Bureau can close roads and regulate other activities on acquired parcels and ultimately reduce the level of threat to desert tortoises.

Mining and Access for Mining Exploration. Mining and access for mining exploration conducted under the causal use provisions of the California Desert Conservation Area Plan will be limited to public roads and designated open routes unless otherwise permitted under a plan of operations approved by the Bureau. Desert tortoises could be crushed by the foot traffic of operators or equipment during exploration. Without off-road vehicle use, the amount and size of other equipment that may be employed during casual use is likely to be limited. For this reason, the number of desert tortoises that may be killed as a result of casual use within the Western Mojave Recovery Unit is likely to be limited.

Note that casual use without specific approval by the Bureau may occur in any area that is open to mineral entry; therefore, site-specific consultation will not occur on casual use activities and the Bureau likely does not have data on the level of use. Given commercial and recreational interest in mineral exploration, this type of casual use is likely fairly common in areas that may have potential to contain geothermal, oil, gas, or mineral resources. Maps 11 through 15 in the California Desert Conservation Area Plan (Bureau 1999) depict areas within the planning area for the western Mojave Desert that have been identified as potential or known resource areas for various types of mineral and energy; based on a visual comparison of these maps with areas known to support desert tortoises, a substantial amount of overlap seems to exist.

In summary, causal use related to mining operations in the Western Mojave Recovery Unit likely occurs in a scattered fashion throughout the area occupied by desert tortoises. Because of the low-intensity nature and localized scale of activities involved with casual use, few desert tortoises are likely to be killed or injured as result of activities implemented under the authorization provided by this element of the California Desert Conservation Area Plan. We do not anticipate that mining activities, conducted under the casual use provisions of the California Desert Conservation Area Plan, are likely to cause substantial effects to the reproduction, numbers, and distribution of the desert tortoise within the action areas.

Activities associated with mining plans of operation could result in the loss of desert tortoises. As one would expect, larger mines are more likely to kill or injure more desert tortoises because

of their size, the greater number of large vehicles that would be in use, and the greater number of employees. The size of the area to be mined under a plan of operation can vary greatly, from the rather small decorative rock mines that are fairly common in the vicinity of Barstow to large open pit mines, such as the Yellow Aster Mine near Randsburg. The development of geothermal, oil, gas, or mineral resources within occupied habitat could result in substantial mortality of desert tortoises because of the generally large scale of the associated facilities. Vehicles accessing mines or other facilities along unpaved roads through desert tortoise habitat are also potential sources of mortality; the level of mortality would vary according to the length of the road, the level of use, and the density of desert tortoises in the area that it traverses.

Mineral development may have indirect effects on desert tortoises. Preliminary work indicates that desert tortoises near hard rock mines may contain elevated levels of metals (Chaffee and Berry 1999). We do not understand the full implications of this research to date or the pathway by which the metals entered the desert tortoise. Desert tortoises could have inhaled the metals as dust that was carried by wind from the mine site; they could also consume dust that had settled on plants or the ground when they eat or mine soil. Alternatively, substrate and plants may normally contain higher levels of these metals because they are located in heavily mineralized areas. If the metals are emanating from mines and are found to affect desert tortoises negatively, the impacts of specific mines would need to be revisited. If mines or other sites maintain ponds as part of the processing facility that desert tortoises can access, animals may die from drinking contaminated water or drown if the sides are too steep. Common ravens may be attracted to waters and other subsidies offered by mines or energy developments.

To date, large-scale development of mineral resources has generally been relatively limited in the Western Mojave Recovery Unit, although substantial overlap exists between occupied habitat of the desert tortoise and areas that contain geological resources (see maps, 12, 13, and 14 in Bureau 1999). Some mines (e.g., Yellow Aster) are located at higher elevations where desert tortoises are less abundant; however, the access roads to these mines may cross areas where desert tortoises are common. Fewer mines are located on bajadas and in the valleys where desert tortoises are more abundant; desert tortoises are generally more abundant within the actual mine site in these areas. The Hector Mine, which lies north of the Marine Corps Air Ground Combat Center, is such a facility. Numerous factors are involved in determining whether large mines can be developed, including the presence of minerals of sufficient quality and quantity and the ability of operators to consolidate a sufficient number of claims. Consequently, to date, the large-scale development of mineral resources has not caused a substantial amount of direct mortality of desert tortoises in the Western Mojave Recovery Unit.

To date, large-scale development of energy from geological resources has generally been limited in the Western Mojave Recovery Unit. In this planning area, geothermal development has been limited to the Coso region at the Naval Air Weapons Station, China Lake; the U.S. Navy manages this area. In general, high potential for geothermal resources does not occur in areas occupied by the desert tortoise (see map 15 in Bureau 1999). Consequently, the likelihood of geothermal development in areas occupied by the desert tortoise in the Western Mojave Recovery Unit seems to be low.

To the best of our knowledge, development of oil and gas resources in the California Desert Conservation Area has not been proposed since the listing of the desert tortoise in 1990. Based on the lack of this activity in the last 15 years, the development of oil and gas resources in the Western Mojave Recovery Unit is unlikely to occur in areas occupied by the desert tortoise in the foreseeable future.

Numerous small mines that produce decorative rock and sand and gravel have been developed; we anticipate that these facilities will continue to be developed under the guidelines for plans of operation contained in the West Mojave Plan and the California Desert Conservation Area Plan. Because of the location of these mines in rockier areas and their small size, few desert tortoises are likely to be killed or injured as a result of this type of mining activity. For those reasons, we do not anticipate substantial impacts to the reproduction, numbers, or distribution of the desert tortoise with respect to plans of operation within the Western Mojave Recovery Unit.

The California Desert Conservation Area Plan, and therefore the West Mojave Plan, incorporates the Bureau's guidelines and regulations that implement mining laws relative to the approval of mining activities. The Bureau may refuse to approve a plan of operations until the plan meets its mitigation and compensation requirements. The mitigation required by the Bureau could reduce the level of the adverse effects of a mining operation by requiring operators to implement measures to reduce the level of mortality of desert tortoises.

The mining laws and regulations incorporated into the California Desert Conservation Area Plan require avoidance of unnecessary and undue degradation of public lands and reclamation of disturbed areas. If the Service found that a proposed plan of operations developed under the guidelines for this element in the California Desert Conservation Area Plan was likely to jeopardize the continued existence of the desert tortoise, the Bureau, with the authorities at 43 *Code of Federal Regulations* 3809.411(d)(3)(iii), "may disapprove of or withhold a plan of operations if the proposed operations 'would result in unnecessary or undue degradation of public lands'" (Bureau 2002a). Unnecessary or undue degradation is defined as "conditions, activities, or practices that, among other things, 'fail to comply with ... other Federal or State laws related to environmental protection...'" (Bureau 2002a). The Bureau also noted that a biological opinion from the Service concluding that a plan of operations would likely jeopardize the continued existence of a species "would certainly indicate a failure to comply with the standards of the Endangered Species Act, and would, therefore, constitute unnecessary and undue degradation (Bureau 2002a)."

This aspect of the California Desert Conservation Area Plan ensures that large-scale mines will not be developed in a manner that would likely jeopardize the continued existence of the desert tortoise. We are unable to provide an estimate of the level of mortality of desert tortoises that mining activities may cause. We would be better able to provide such estimates during site- and project-specific reviews, conducted under the authorities of section 7(a)(2) of the Act.

Native Plant Harvesting. The harvesting of native plants will not be allowed within habitat conservation areas. This prohibition should reduce, by a very small degree, the amount of use of desert wildlife management areas; consequently, this action may benefit the desert tortoise.

Outside of the habitat conservation areas, plant harvesting will be regulated in accordance with the California Desert Native Plant Protection Act. The level of this type of use in the planning area is likely low; consequently, we expect that few desert tortoises are likely to be killed by the harvesting of native plants.

The Bureau will consider whether to authorize individual actions when they are proposed by applicants. Consequently, it will consult with the Service, under the auspices of section 7(a)(2) of the Act, as appropriate if a specific action is proposed.

Recreation. The prohibition of vehicle speed events within the desert wildlife management areas and the Mohave Ground Squirrel Conservation Area will reduce the threat that vehicles will strike desert tortoises. Permitting dual sport events from November 1 to March 1 in desert wildlife management areas, including the Rand Mountains, poses a low level of risk to desert tortoises because they are less active during this portion of the year. The Bureau's proposals to supplement education materials to indicate that young desert tortoises may be encountered during the fall and winter and should be avoided is likely to provide little benefit. Biologists who are experienced in conducting surveys for desert tortoises have difficulty detecting small individuals; riders of motorcycles and all-terrain vehicles will certainly be even less likely to be able to see and avoid such small individuals. Despite this fact, the risk to desert tortoises of these seasonal events is likely low because, although desert tortoises may be active at any time of the year, they usually do not wander far from their burrows during the shorter and cooler days from November 1 to March 1.

Allowing dual sport events in those portions of the Mohave Ground Squirrel Conservation Area outside of the desert wildlife management area only from September through February will benefit desert tortoises because events will not occur when they are most active. This beneficial effect will be minor because desert tortoises are not common in most of these areas. Conversely, some potential exists that desert tortoises could be killed during these events, although this likelihood is low.

The Bureau will consider whether to authorize individual speed and dual sport events when they are proposed by applicants. Consequently, it will consult with the Service, under the auspices of section 7(a)(2) of the Act, as appropriate when a specific action is proposed.

Minimum impact recreation (e.g., hiking, equestrian uses, bird watching, photography, etc.) would be allowed within the conservation areas. The degree of threat posed to desert tortoises by recreation increases with the speed, weight, and numbers of recreational units. Consequently, although these activities may lead to some level of mortality of desert tortoises, we expect few animals will be killed because of the dispersed nature and low intensity of this use. Recreational use of the California desert may benefit desert tortoises to some degree if users gain an appreciation for the land and its wildlife and undertake actions to conserve this resource. We will not conduct any further evaluation of the potential effects on the desert tortoise of causal use with regard to recreation in this biological opinion because its fundamental authorization occurs under the auspices of the California Desert Conservation Area Plan.

Wildlife Water Sources. The Bureau's proposal to allow existing artificial water sources (guzzlers, drinkers, tanks) to remain in place could pose some level of risk to desert tortoises. Desert tortoises have, in the past, drowned or been trapped in certain types of watering devices, when the slope of the device to the water's surface was steep and slippery with algae; Hoover (1988 in Boarman 2002) found 26 carcasses in 89 watering devices for upland game in California.

Enhancing the water supply for wildlife has the potential to increase the density of predators, which may result in increased predation on desert tortoises. In general, we have not observed any effects on populations of desert tortoises that can be attributed to increases in the numbers of individuals of native species caused by human-augmented sources of water. The common raven provides an exception to this statement. Common ravens are known to use numerous types of water sources; such subsidies likely increase their distribution and abundance in the Western Mojave Recovery Unit. We have no information on whether the presence of artificial waters substantially increases the range or reproductive capabilities of the common raven beyond those afforded by other sources of water. Knight et al. (1999) have demonstrated that common ravens are found more often at stock tanks than at natural springs and in the open desert, but similar data do not exist for guzzlers.

Desert tortoises may be struck by vehicles being used to gain access to existing waters for maintenance. We expect the level of mortality associated with the maintenance of existing waters to be low because the amount of maintenance work likely to be needed should be fairly minor.

We cannot predict how many desert tortoises would be killed or injured by the operation and maintenance of artificial waters. Even at the time of a project-specific review, we would be unable to predict the level of mortality of desert tortoises in artificial waters because we cannot assess when animals would encounter the waters and the precise circumstances under which they may become trapped; however, appropriately designed waters are unlikely to entrap many desert tortoises. The Bureau has proposed to modify guzzlers that are found to entrap desert tortoises; such an action would reduce the number of animals that are likely to be killed in these artificial waters.

Commercial Activities. Commercial activities within desert wildlife management areas may result in injury or mortality of desert tortoises, although the protective measures imposed by the Bureau should reduce the number of animals that are killed. The Bureau's proposal to direct proponents to lands outside desert wildlife management areas and to lower density areas within desert wildlife management areas, when possible, should assist in reducing effects to desert tortoises. The number of desert tortoises that would be killed or injured by any commercial activity can only be estimated based on a site-specific project review, which is beyond the scope of the proposed action; such reviews will be the subject of future consultations under section 7(a)(2) of the Act, as appropriate.

Domestic Dogs. Allowing dogs off leash if they are accompanied by and under the control of their owners poses a low level of risk to desert tortoises because such animals would be unlikely

to find and injure wildlife. Dogs in this situation may startle or disturb desert tortoises; in this case, the desert tortoise is likely to respond to the dog as it would to a coyote. Because we do not expect desert tortoises to be disturbed to the degree that they would be unable to feed, seek shelter, or engage in other necessary behavior, this level of disturbance is unlikely to impair their survival. Off-leash dogs in some situations (e.g., construction sites in desert wildlife management areas) may be left alone to a greater degree and hence have more opportunity to disturb or injure desert tortoises; therefore, prohibiting them in such situations, as proposed by the Bureau, is protective of desert tortoises. This provision of the West Mojave Plan would be in effect with the signing of the record of decision; consequently, it is a casual use that will not receive future action-specific consultation.

Shooting. The shooting or discharge of firearms, in accordance with State and local laws, on most public lands and during hunting season in pursuit of game and target practice using retrievable targets within desert wildlife management areas is unlikely to kill desert tortoises. If the use of firearms is legitimate, desert tortoises are unlikely to be struck by stray bullets, simply because of the low probability of hitting such a small target inadvertently. As we stated previously in this biological opinion, legitimate uses of the desert can facilitate unauthorized abuse. Berry (1986a in Boarman 2002) found that 20.7 percent of the desert tortoise carcasses showing evidence of being shot were from the western Mojave Desert; this statistic is more striking when compared with rates of 1.5 and 2.0 percent from the eastern Mojave and Colorado Deserts, respectively. In all, Berry examined 91 carcasses that showed evidence of being shot.

We expect that the enforcement of State regulations and county ordinances will be minimal, simply because protecting desert tortoises is not a high priority for law enforcement agencies of the State of California (with the obvious exception of the California Department of Fish and Game) and local agencies; additionally, these agencies are generally understaffed. We cannot predict how many desert tortoises may be killed by the unauthorized use of firearms; for the reasons cited in the previous paragraph, we do not expect desert tortoises to be shot during the legitimate discharge of firearms. This provision of the West Mojave Plan would be in effect with the signing of the record of decision; consequently, it is a casual use that will not receive future action-specific consultation.

Predation by Common Ravens. Implementation of a management program for the common raven has the potential to promote the conservation of the desert tortoise. If the program is successful in reducing the number of desert tortoises that are killed by common ravens, it will increase reproductive success, which is a key need for recovery of the desert tortoise. Workers implementing the program may kill or injure desert tortoises as they travel through the desert both on foot and in vehicles, but these effects are likely to be very minimal and involve few desert tortoises. Any program to kill individual common ravens will need additional permitting because of the Migratory Bird Treaty Act; the lead agency for implementing the program will also need to consider whether the desert tortoise (or its critical habitat) may be affected. Because any program to manage common ravens will require a substantial amount of future development, review, and approval by the Bureau and other agencies (including the Service), we will not discuss this issue further in this biological opinion.

Effects on the Critical Habitat of the Desert Tortoise

The recovery plan recommends that each desert wildlife management area be at least 1,000 square miles in area and that more than one desert wildlife management area be included within each recovery unit. The following table depicts the sizes of the critical habitat units and desert wildlife management areas in the Western Mojave Recovery Unit.

	Critical Habitat Unit [1]		Desert Wildlife Management Area [1]	
	Acres	(Square Miles)	Acres	(Square Miles)
Fremont-Kramer	518,000	(809)	494,720	(773)
Superior-Cronese	766,900	(1,198)	616,320	(963)
Ord-Rodman	253,200	(396)	248,320	(388)
Pinto Mountain	171,700	(268)	117,120	(183)

[1] Acreages for desert wildlife management areas are based on information in Table 4-6 of the final environmental impact report and statement. Acreages for critical habitat units are based on information in the final rule designating critical habitat for the desert tortoise (59 *Federal Register* 5820).

On-the-ground circumstances, however, dictate what any single agency with jurisdiction over desert wildlife management areas can accomplish. Although the Bureau has included virtually all public lands within the critical habitat units in its desert wildlife management areas, all four desert wildlife management areas are smaller than the size recommended in the recovery plan. The Bureau omitted some small parcels of critical habitat from desert wildlife management areas because they were completely surrounded by large blocks of private land and difficult to manage. In fact, approximately 18,460 acres of Bureau land within the boundaries of the critical habitat units were not included in the four desert wildlife management areas (Service 2005d).

Specifically, 9,678 acres of the Ord-Rodman Critical Habitat Unit were not included within a desert wildlife management area; these lands lie within the northern portion of the Johnson Valley Off-highway Vehicle Management Area. In this situation, the Service used section lines to draw the boundaries of the critical habitat unit; however, the Bureau had previously established the boundary of the off-highway vehicle management area along an unpaved road, which provides a much more well-defined boundary than section lines. The 9,678 acres are located in numerous parcels along approximately 16 miles of the boundary. The primary constituent elements on at least some of these parcels, particularly along the western portion of the boundary, were degraded prior to the designation of critical habitat; along the eastern portion of the boundary, habitat is generally less disturbed because the level of off-road vehicle use is lower. Given the location of the critical habitat that was excluded from the desert wildlife management area (i.e., at its edge) and the degraded condition of the primary constituent elements in at least a portion of the unit, its exclusion from the desert wildlife management area will not affect the conservation role and function of the Ord-Rodman Critical Habitat Unit.

In the Fremont-Kramer Critical Habitat Unit, the Bureau did not include approximately 1,734 acres within the desert wildlife management area. In the northern portion of the desert wildlife

management area, the Bureau again used established roads as the boundary; in the southern portion of the critical habitat unit, the Bureau did not include two parcels that were separated from other public land by large blocks of private land and another parcel that is located within the El Mirage Off-highway Vehicle Management Area. Given the location of the critical habitat that was excluded from the desert wildlife management area (i.e., at its edge) and the degraded condition of the primary constituent elements in at least a portion of the unit, its exclusion from the desert wildlife management area will not affect the conservation role and function of the Fremont-Kramer Critical Habitat Unit. Note also that the Bureau's designation of a conservation area for the Mohave ground squirrel will extend the one percent limit on future ground disturbance to areas of critical habitat that are north of the Fremont-Kramer Desert Wildlife Management Area; see the Amendment 4, Designation of the Mohave Ground Squirrel Conservation Area - Effects on Critical Habitat section of this biological opinion for a discussion of measures regarding the Mohave ground squirrel.

The Bureau did not include approximately 3,853 acres of the Superior-Cronese Critical Habitat Unit within the Superior-Cronese Desert Wildlife Management Area. Generally, the Bureau excluded four parcels of public lands for the same reasons discussed in the previous two critical habitat units. As in those cases, the conservation role and function of the Superior-Cronese Critical Habitat Unit will not be compromised by the exclusion of these areas. Note also that the Bureau's designation of a conservation area for the Mohave ground squirrel will extend the one percent limit on future ground disturbance to areas of critical habitat that are north of the Superior-Cronese Desert Wildlife Management Area; see the Amendment 4, Designation of the Mohave Ground Squirrel Conservation Area - Effects on Critical Habitat section of this biological opinion for a discussion of measures regarding the Mohave ground squirrel.

Finally, in the Pinto Mountain Critical Habitat Unit, the Bureau did not include approximately 3,195 acres in two parcels in the northwestern and northeastern corners of the desert wildlife management area. The exclusion of these parcels, at the corners of the Pinto Mountain Desert Wildlife Management Area, will not affect the conservation role and function of the Pinto Mountain Critical Habitat Unit.

Limiting the amount of cumulative ground disturbance to one percent of the public lands in each of the desert wildlife management areas will likely ensure that proposed actions do not appreciably compromise the function and conservation role of critical habitat units in the western Mojave Desert planning area. Conversely, approximately 99 percent of the critical habitat within the desert wildlife management areas will remain undisturbed; this lack of disturbance will clearly promote the ability of the critical habitat unit to achieve its conservation role and function.

We note that the one percent limit is tied to the size of the desert wildlife management area but not to the critical habitat unit. For this reason and because we do not know where future actions may occur, we cannot, with absolute certainty, state that only one percent of the critical habitat unit will be affected. We expect, however, that project impacts within the portions of the Superior-Cronese, Fremont-Kramer, Ord-Rodman, and Pinto Mountain critical habitat units managed by the Bureau will not exceed the one percent limit for several reasons. First, given the

past history of this area, most actions will be relatively small in scale and will be spread across the critical habitat unit. Second, the large degree of overlap between the desert wildlife management areas and critical habitat should ensure that many actions would not be concentrated within critical habitat but outside of the desert wildlife management areas. Finally, at least some projects will likely occur within the desert wildlife management area but outside of critical habitat. Consequently, we conclude that the one percent limit on cumulative ground disturbance within desert wildlife management areas is also likely to confer a high degree of protection to critical habitat.

Although the primary constituent elements of critical habitat may be disturbed or lost within areas of disturbance, the relatively small amount of disturbance (in relation to the size of the critical habitat) that the Bureau will permit should ensure that desert tortoises will continue to have sufficient area in which to feed, breed, and find shelter. Additionally, because the disturbance and loss of habitat would likely occur through the implementation of numerous actions, separated through the desert wildlife management area by distance and over time, we do not anticipate that habitat is likely to be fragmented to the extent that the function and conservation role of the critical habitat unit as a whole is compromised.

The Bureau requirement that project proponents compensate for loss or disturbance of desert tortoise habitat within desert wildlife management areas at a ratio of five acres of compensation for every acre loss or disturbed will promote the conservation of the desert tortoise by protecting more critical habitat of the desert tortoise. Once acquired, the provisions of section 7(a)(2) would be in force. The consultation mandate requires Federal agencies to avoid adverse modification of critical habitat of listed species.

Additionally, the Bureau can use funds generated in this manner to close roads, regulate activities, and attempt to restore the primary constituent elements of critical habitat on acquired parcels and ultimately reduce the level of threat and disturbance to critical habitat of the desert tortoise. Although the compensation requirement will generally benefit the conservation role and function of critical habitat, the limit on loss or disturbance of habitat within desert wildlife management areas and the general lack of activity in the planning area may result in the acquisition of a fairly small amount of habitat through this means; one exception to this general rule may be compensation acquired for large utility projects.

Mining Exploration Access. Foot traffic of operators or equipment during exploration may disturb habitat and subsequently lead to an invasion of non-native plants. Under most mining activities that could be conducted under the casual use provisions, the primary constituent elements of critical habitat could be removed from a small area; the impacts of casual use on the maintenance of sufficient space to support viable populations of desert tortoises within the western Mojave Desert and to provide for their movement, dispersal, and gene flow, are likely to be minor, given that, by definition, these activities are minor in size and intensity.

The guidelines require that disturbances created during casual use be restored. Restoration attempts often fail in the harsh climate of the desert. However, because the disturbance allowed under casual use is minimal, the required restoration may be attainable. A possible exception

would be invasion by non-native plants, in part, because this effect would likely not be seen for months after the casual use and restoration occurred.

Without off-road vehicle use, the amount and size of other equipment that may be employed during casual use is likely to be limited. For this reason, the amount of disturbance to critical habitat of the desert tortoise that may occur as a result of casual use under the mining guidance of the California Desert Conservation Area Plan is likely to be limited and fairly close to authorized routes of travel.

As we noted in the previous section, the level of causal use is likely to be fairly common in areas that may have potential to contain geothermal, oil, gas, or mineral resources. Such areas have a substantial degree of overlap with critical habitat of the desert tortoise.

Because casual use generally has minor effects on relatively small areas and these activities are likely to be scattered over large areas, it would be highly unlikely to affect the primary constituent elements of critical habitat of the desert tortoise in a manner or at a scale that would compromise the function and conservation role of any critical habitat unit. Note that casual use may occur in any area that is open to mineral entry without specific approval by the Bureau; therefore, site-specific consultation will not occur on casual use activities. Note also that we will not conduct any further evaluation of the potential effects on critical habitat of causal use with regard to mining in this biological opinion because its fundamental authorization occurs under the auspices of the California Desert Conservation Area Plan.

Activities associated with mining plans of operation could result in the temporary or permanent loss of desert tortoise habitat and the introduction or spread of non-native plant species. Under most mining activities that would require a plan of operations, the mining may locally remove or seriously degrade most of the primary constituent elements of critical habitat. The impacts of a mining action on the first primary constituent element, the maintenance of sufficient space to support viable populations within each of the six recovery units and to provide for movement, dispersal, and gene flow, could only be evaluated on a site- and project-specific basis.

Under the authority and guidelines of the California Desert Conservation Area Plan, the Bureau will require restoration of lands disturbed during mining activities conducted under plans of operations. However, restoration efforts may not be successful in re-establishing the same quality and type of habitat that existed prior to the mining activity. Large areas are more difficult to restore; however, large mining companies have devoted extensive funding and resources to at least some restoration efforts (e.g., Viceroy Mine in the eastern Mojave Desert near Lanfair Valley). To date and to the best of our knowledge, desert tortoises have not used large mines that have been reclaimed from past mining activities.

Preliminary work indicates that desert tortoises near hard rock mines may contain elevated levels of metals. As we discussed in the previous section, we do not understand the full implications of this research to date or the pathway by which the metals entered the desert tortoise. If the metals are emanating from mines and are found to compromise the primary constituent elements of

critical habitat of the desert tortoise in a substantial negative manner, the impacts of specific mines would need to be revisited.

To date, large-scale development of mineral resources has generally been relatively limited in the California Desert Conservation Area, although substantial overlap exists between critical habitat of the desert tortoise and areas that contain geological resources (see maps, 12, 13, and 14 in Bureau 1999). Some mines (e.g., Yellow Aster) are located at higher elevations that do not support the primary constituent elements of critical habitat. The access roads to these mines may cross areas where the primary constituent elements are present. Fewer mines are located on bajadas and in the valleys where the primary constituent elements are usually present. The Hector Mine, which lies north of the Marine Corps Air Ground Combat Center, is such a facility. Numerous factors are involved in whether a large mine can be developed; the presence of minerals of sufficient quality and in sufficient quantity and the ability of operators to consolidate a sufficient number of claims are pertinent factors. Consequently, to date, the large-scale development of mineral resources in the California Desert Conservation Area has not caused the removal of substantial amounts of critical habitat that support primary constituent elements.

To date, large-scale development of energy from geological resources has generally been limited in the Western Mojave Recovery Unit. Geothermal development has been limited to the Coso region at the Naval Air Weapons Station, China Lake; this area is outside the boundaries of critical habitat of the desert tortoise. In general, high potential for geothermal resources does not occur within critical habitat of the desert tortoise (see map 15 in Bureau 1999). Consequently, the likelihood of geothermal development within critical habitat of the desert tortoise in the Western Mojave Recovery Unit seems to be low.

To the best of our knowledge, development of oil and gas resources in the California Desert Conservation Area has not been proposed since the listing of the desert tortoise in 1990. Based on the lack of this activity in the last 15 years, the development of oil and gas resources in the Western Mojave Recovery Unit is unlikely to occur in areas that support the primary constituent elements of critical habitat of the desert tortoise in the foreseeable future.

Numerous small mines that produce decorative rock and sand and gravel have been developed; we anticipate that these facilities will continue to be developed under the guidelines for plans of operation contained in the California Desert Conservation Area Plan. Because of the location of these mines in rockier areas and their small size, we anticipate that they will cause localized and minor effects to the primary constituent elements of critical habitat of the desert tortoise.

The California Desert Conservation Area Plan incorporates the Bureau's guidelines and regulations that implement mining laws relative to the approval of mining activities. The Bureau may refuse to approve a plan of operations until the plan meets its mitigation and compensation requirements. The mitigation required by the Bureau could reduce the level of the adverse effects of a mining operation to the primary constituent elements of desert tortoise critical habitat.

The mining laws and regulations incorporated into the California Desert Conservation Area Plan require avoidance of unnecessary and undue degradation of public lands and reclamation of disturbed areas. If the Service found that a proposed plan of operations developed under the guidelines for this element in the California Desert Conservation Area Plan was likely to jeopardize the continued existence of the desert tortoise, the Bureau, with the authorities at 43 *Code of Federal Regulations* 3809.411(d)(3)(iii), "may disapprove of or withhold a plan of operations if the proposed operations 'would result in unnecessary or undue degradation of public lands'" (Bureau 2002a). Unnecessary or undue degradation is defined as "conditions, activities, or practices that, among other things, 'fail to comply with ... other Federal or State laws related to environmental protection...'" (Bureau 2002a). The Bureau also noted that a biological opinion from the Service concluding that a plan of operations would likely jeopardize the continued existence of a species "would certainly indicate a failure to comply with the standards of the Endangered Species Act, and would, therefore, constitute unnecessary and undue degradation (Bureau 2002a)." Adverse modification of critical habitat would also constitute unnecessary and undue degradation because it would violate section 7(a)(2) of the Act (Lorentzen pers. comm. 2005a).

In summary, the Bureau's unnecessary and undue degradation standard provides assurance that mining activity is unlikely to cause the permanent loss or temporary disturbance of large amounts of critical habitat. The unnecessary and undue degradation standard and the low likelihood that large-scale mines would be developed in numerous locations throughout the desert should ensure that the program direction for mining activities does not diminish appreciably the function and conservation role of critical habitat of desert tortoise. We are unable to provide any estimate of the amount of critical habitat of the desert tortoise that mining activities may disturb or remove. We would be better able to provide such estimates during site- and project-specific reviews.

Native Plant Harvesting. Because of the large degree of overlap between critical habitat units and desert wildlife management areas, the prohibition against harvesting of native plants within habitat conservation areas will protect the primary constituent elements regarding the maintenance of plants as forage and shelter for the desert tortoise; additionally, to the best of our knowledge, this activity occurs relatively infrequently. The relatively minor amount of harvesting of native plants that occurs outside of desert wildlife management areas is unlikely to reduce the suitability of habitat for the desert tortoise in these portions of the desert.

Recreation. The use of vehicles on roads that are designated as open or limited during recreational activities, such as dual sport events, will not, in general, adversely affect the primary constituent elements of critical habitat because these biological and physical attributes are not present within roadbeds. Some roads support annual plants, possibly even at greater local densities than on adjacent, undisturbed habitat, because of alterations in the hydrological regime caused by the road. Although such areas may be of value to a few desert tortoises, they are not so extensive that they substantially alter the patterns of the distribution of forage plants.

The degree of threat posed to critical habitat by recreation increases with the speed, weight, and numbers of recreational units. For example, a small group of hikers poses much less threat to the

primary constituent elements of critical habitat than a race involving numerous all-terrain vehicles. Additionally, most minimum impact recreation likely occurs relatively close to roads so the impact away from roaded areas is even less intense. Consequently, the minimum impact recreation that the Bureau proposes to allow within desert wildlife management areas are unlikely to disturb the primary constituent elements to the extent that the conservation role and function of the critical habitat units are compromised.

Wildlife Water Sources. The Bureau's proposal to leave existing springs, seeps, and artificial water sources (e.g., guzzlers, drinkers, tanks) in place will not have a substantial effect on the primary constituent elements of critical habitat. Natural springs and seeps do not support the primary constituent elements of critical habitat of the desert tortoise; the plant communities and substrates at springs are generally more characteristic of wetland habitats, which are not primary constituent elements of critical habitat of the desert tortoise. We recognize that leaving artificial water sources, such as facilities to water cattle, would likely maintain the level of disturbance that is common around such features; we will address that issue in the section of this biological opinion on livestock grazing. Finally, the maintenance of existing guzzlers would have an insignificant effect on the primary constituent elements of critical habitat because any disturbance associated with such activities will be limited to the immediate area of the facility; vehicle access to guzzlers would be via existing designated routes.

Commercial Activities. Commercial activities within critical habitat units may result in disturbance or loss of primary constituent elements. The Bureau's proposal to direct proponents to lands outside desert wildlife management areas and, therefore, to a large degree outside of critical habitat, when possible, should assist in reducing effects to the primary constituent elements. The precise amount of critical habitat that would be disturbed or lost as a result of any commercial activity can only be determined on a site-specific project review, which is beyond the scope of the proposed action; such reviews will be the subject of future consultations under section 7(a)(2) of the Act, as appropriate. The Bureau's proposals to direct commercial activities to areas outside of desert wildlife management areas (and, therefore, outside of critical habitat) and the fact that any disturbance of land with desert wildlife management areas will be subject to the one percent limit on new ground disturbance leads us to conclude that commercial activities are unlikely to compromise the conservation role and function of critical habitat units in the Western Mojave Recovery Unit.

Domestic Dogs. Dogs that are accompanied by and under the control of their owners may adversely affect the primary constituent elements of critical habitat by trampling annual plants, damaging shrubs, and digging. Because these impacts would likely occur on a very limited scale, in relation to the size of the critical habitat units, we conclude that allowing domestic dogs within desert wildlife management areas is unlikely to compromise the conservation role and function of critical habitat units in the Western Mojave Recovery Unit. We will not conduct any further evaluation of the potential effects on critical habitat of domestic dogs in this biological opinion because their presence in the California Desert Conservation Area is authorized under the auspices of the California Desert Conservation Area Plan.

Shooting. Allowing the use of firearms for target practice may result in some level of damage to the primary constituent elements of critical habitat of the desert tortoise. Persons involved in legitimate hunting and target shooting could potentially damage the quality of the primary constituent elements of critical habitat by introducing lead to substrates that desert tortoises mine for minerals. We do not have information on the effects of lead on desert tortoises, but we expect that the areas in which lead could be ingested in this manner would be fairly localized within the extensive areas available for target shooting. At least some portions of the public will likely shoot at shrubs to the extent that they are damaged and may no longer provide shelter for desert tortoises. Although we cannot predict the extent of damage to the primary constituent elements of tortoise critical habitat that may result from the use of firearms, given the size of the critical habitat units, we expect that most detectable impacts will be very localized and that only negligible adverse effects are likely to occur to the primary constituent elements and function of the critical habitat units in the Western Mojave Recovery Unit.

Amendment 3, Changes in Multiple-use Class Designations

The Bureau has proposed to change the land use designations within numerous areas of critical environmental concern and other areas in the planning area.

Effects on the Desert Tortoise

Changing the multiple-use class designations from M to L on certain lands within the expanded Afton Canyon Area of Critical Environmental Concern will, as we noted in our previous discussion regarding this area of critical environmental concern, provide a conservation benefit to the desert tortoise. The Bureau's decision to change the multiple-use class designations from Class M to Class L on 9,809 acres in the northern Lucerne Valley within the Bendire's Thrasher Area of Critical Environmental Concern, from M to L on 14,224 acres of the Pisgah Area of Critical Environmental Concern, from Class M to Class L on 9,809 on 4,393 acres on the north slope of the San Bernardino Mountains within the Carbonate Endemics Plants Area of Critical Environmental Concern, from unclassified to Class L on the 628-acre Mojave Fishhook Cactus Area of Critical Environmental Concern south of Helendale, and from unclassified and Class I to Class L on 10,633 acres in Brisbane Valley within the Mojave Monkeyflower Area of Critical Environmental Concern will also benefit the desert tortoise. These actions will benefit desert tortoises because designation of the areas as Class L limits, to a certain degree, the amount of development activity that may occur. We recognize that all development is not prohibited on Class L lands. Our previous biological opinion on the California Desert Conservation Area Plan evaluated the program direction provided by the Bureau's land use classification; we will not repeat that analysis herein.

The Bureau will also change the multiple-use class designations from Class I to Class L on 5,391 acres to the east of Searles Dry Lake. This change, which is being made primarily for the conservation of the Mohave ground squirrel, will occur in areas where desert tortoises exist in low numbers; consequently, desert tortoises may benefit from the change to some degree.

Changing the land use designation from unclassified to Class M on 1,922 acres adjacent to Joshua Tree National Park to protect the Little San Bernardino Mountains gilia is also protective of the desert tortoise. The management guidance provided under Class M is more protective than for unclassified lands. Additionally, this land use designation would allow the Bureau to transfer these lands to another entity that may be able to manage this small, isolated parcel more efficiently than the Bureau.

The benefits to the desert tortoise described in the previous three paragraphs are not likely to be substantial because, with the exceptions of the Mojave Monkeyflower and Pisgah areas of critical environmental concern, relatively few desert tortoises likely occur in these areas. Nevertheless, conserving desert tortoises in these areas is important because it allows them to persist in a greater variety of habitat types and possibly for maintaining some degree of genetic diversity. The conservation of desert tortoises in the Pisgah Area of Critical Environmental Concern area is particularly important because of their use of extensive areas of lava flows; the conservation of this use of an atypical habitat is an important component of protecting the full suite of ecosystems upon which the desert tortoise depends.

The change in multiple-use class designations from Class M and L to unclassified on 6,828 acres in southern Inyo County will likely have a minor negative effect on the desert tortoise. Once designated as unclassified, the Bureau may dispose of these lands; subsequently, they may be developed. These areas, which lie outside of any desert wildlife management areas and critical habitat for the desert tortoise, are located at the northern edge of the desert tortoise's range in this portion of the desert. Additionally, approximately half of these lands are outside the range of the desert tortoise, as it was defined in 2002 (see Map 3-10 in the final environmental impact report and statement). Consequently, the number of animals in these areas is generally very low, if any occur there at all. An additional ameliorating effect is that the parcels selected for disposal are located immediately adjacent to Highways 395 and 178; the density of desert tortoises near busy roads is generally lower than in surrounding areas farther from the roads.

The Bureau also proposes to adjust the zoning within the West Mojave Land Tenure Adjustment Program and change the multiple-use class designations to reflect the new land tenure. The Bureau would remove lands from the disposal zone and place them into retention or consolidation zones; it would also change the multiple-use class designations from unclassified to Class L in these areas. These changes will result in approximately 21,902 additional acres being managed for the conservation of the desert tortoise. The principle areas where boundaries will be modified in this manner are south of Edwards Air Force Base, along the southern borders of the Fremont-Kramer and Superior-Cronese desert wildlife management areas, and in the area south of Highway 58 east of Helendale Road.

As we noted previously in this biological opinion, the Bureau was required to re-initiate formal consultation on the West Mojave Land Tenure Adjustment Program if the Department of the Army completed its expansion proposal for Fort Irwin; the Bureau had delayed land exchange activities within the eastern 200 square miles of the project area until the status of these lands was determined (Service 1990). In the initial consultation, the Bureau anticipated that the ratio of private lands acquired to public lands disposed would be approximately 2.4 to 1. Because of

the expansion of Fort Irwin into large areas of public land (and a smaller area of private lands), the Army's acquisition of approximately 99,000 acres of private land to compensate for the expansion, and the fact that owners of large areas of private land are limited within the areas covered by the proposed desert wildlife management areas, the Bureau may no longer be able to maintain a ratio of 2.4 to 1. Despite the likelihood that the Bureau may not be able to maintain this ratio and that some desert tortoises may reside on lands that the Bureau may offer for exchange, we consider the overall effect of the West Mojave Land Tenure Adjustment Program and the changes proposed in this amendment on the species to be positive because, although the Bureau will no longer be able to exchange these lands for others of high conservation value, their retention expands the area within which desert tortoises can be managed. We have not conducted a quantitative analysis of the changes; however, the addition of these lands to the retention zone seems to decrease the ratio of the boundary length to the area of the desert wildlife management areas. As the recovery plan notes, smaller boundary length to area ratios provide a better design for reserves because the indirect effects of activities outside of the conservation area cannot reach as far into the reserve. Additionally, the lands that the Bureau will offer for exchange are generally isolated from large blocks of public land or at the edges of urbanized areas; in general, their management for conservation would require relatively greater expenditures of the Bureau's resources in relation to the conservation value. Finally, these areas support few desert tortoises. The Bureau will continue to notify the new owners of the requirements of the Endangered Species Act. In the event that the entities acquiring these parcels intended to engage in activities that may kill or injure desert tortoises, they should contact the Service to determine how best to comply with the Endangered Species Act.

The Bureau, in the final environmental impact report and statement, notes that 4,839 acres of non-wilderness Class C lands would undergo changes in multiple-use class to Class L, M, or I. In general, the lands would be re-assigned to multiple-use classes that are more appropriate for the uses on surrounding lands. Lands that would be reclassified and either support or may support desert tortoises occur near four wilderness areas and constitute a small portion of the desert wildlife management area system in the Western Mojave Recovery Unit. Additionally, most of the parcels would remain within a desert wildlife management area and be protected by the one percent limit on allowable ground disturbance. Consequently, although these changes may reduce the level of protection afforded to the desert tortoise on these lands to some degree, any adverse effect of the reclassifications would be minor.

We discussed the issues surrounding the Western Rand Area of Critical Environmental Concern in the previous section of this biological opinion and will not repeat them here. We note that, the change of the multiple-use class designation from Class M to Class L on 13,120 acres would benefit the conservation of the desert tortoise for the reasons discussed previously in this section of the biological opinion.

The actions discussed in the preceding paragraphs will be authorized under the California Desert Conservation Area Plan and would become effective upon the Bureau's signing of the record of decision. Consequently, the Bureau and Service will not consult on these issues again, unless the agencies determine that re-initiation of consultation is required, as described at 50 *Code of Federal Regulations* 402.16.

Effects on Critical Habitat of the Desert Tortoise

Public lands within the boundaries of the Western Mojave Land Tenure Adjustment program that were formerly identified for disposal lie within the boundaries of critical habitat. The Bureau's proposal to retain these lands and manage them under the guidelines of Class L will promote the conservation role and function of critical habitat because, as we have stated previously in this biological opinion, the Class L guidelines provide a greater emphasis on the conservation of natural resources than other land use classes (with the exception of Class C) and the one percent limit on surface disturbance associated with desert wildlife management areas and habitat conservation areas will apply.

Amendment 4, Designation of the Mohave Ground Squirrel Conservation Area.

The Bureau will establish conservation areas for the Mohave ground squirrel that cover 1,308,877 acres to the west, northwest, and north of the Fremont-Kramer Desert Wildlife Management Area.

Effects on the Desert Tortoise

The establishment of the conservation area for the Mohave ground squirrel is likely to promote the conservation of the desert tortoise to some degree in areas that are outside of desert wildlife management areas because the one percent limit on future ground disturbance will also be in effect within this area. In particular, desert tortoises located to the north and west of the Fremont-Kramer Desert Wildlife Management Area will likely derive conservation benefit from this action because the protective measures of a conservation area will apply.

Effects on Critical Habitat of the Desert Tortoise

The establishment of the conservation area for the Mohave ground squirrel will extend the provisions of the one percent limit on future ground disturbance to areas that are outside of desert wildlife management areas. In particular, this measure will benefit the management of the parcels of critical habitat located to the north of the Fremont-Kramer Desert Wildlife Management Area and at the northwest corner of the Superior-Cronese Desert Wildlife Management Area. Approximately 847 acres of critical habitat will be included in the conservation area for the Mohave ground squirrel in the Fremont-Kramer Critical Habitat Unit; approximately 1,712 acres of critical habitat will be included in the conservation area for the Mohave ground squirrel in the Superior-Cronese Critical Habitat Unit (Service 2005d).

Amendment 5, Implementation of the Rand Mountain – Fremont Valley Management Plan.

The Bureau proposes to expand the Western Rand Area of Critical Environmental Concern by 13,120 acres, designate the lands in the expanded area of critical environmental concern as Class L, close the entire management area to off-highway vehicle use except for 129 miles of designated open routes, and categorize a portion of the Rand Mountains - Fremont Valley Management Area as Category I habitat for the desert tortoise. The Bureau will withdraw

32,590 acres within the Rand Mountains - Fremont Valley Management Area from mineral location and entry. The 6,090-acre Koehn Lake and an additional 8,320 acres would remain as Class I and open to mineral entry. The Bureau will require visitors to obtain a permit if they wish to use vehicles in the Rand Mountains.

The actions discussed in the preceding paragraph will be authorized under the California Desert Conservation Area Plan and would become effective upon the Bureau's signing of the record of decision. Consequently, the Bureau and Service will not consult on these issues again, unless the agencies determine that re-initiation of consultation is required, as described at 50 *Code of Federal Regulations* 402.16. Note that, although the West Mojave Plan constitutes the Bureau's proposed action with regard to the Western Rand Area of Critical Environmental Concern, the decision to remove the closure can be made separately from the record of decision for the planning area as a whole. Consequently, the Bureau will remove the closure when it considers the management of vehicle use in this area to be in compliance with the established guidelines.

Effects on the Desert Tortoise

Implementation of the Rand Mountains – Fremont Valley Management Plan may substantially benefit the desert tortoise. Although recreationists have shown disregard for the 12,300-acre area that is currently closed, the Bureau has expended extensive effort to ensure that the benefits of implementing the management plan are realized.

As part of the settlement agreement with the Center for Biological Diversity, the Bureau has closed this area to vehicles since March 29, 2002. Despite this closure, a monitor hired by the Bureau to observe its effectiveness documented numerous instances of lack of compliance with the closure of the area. For example, from August 2002 to March 2003, the monitor documented 64 occasions of motorcyclists and occasionally truck drivers traveling cross-country, over restored areas, and parallel to existing routes; these observations were made at fixed monitoring points (McEwan undated). She also incidentally observed tracks on 129 occasions. The monitor observed tracks going around closure signs on 14 occasions. Motorcyclists and occasionally truck drivers have driven around the end of wing fences to enter the closure area. Multiple motorcycle tracks going around the end of the wing fences have been observed on 22 occasions. Motorcyclists have cut the fence to enter the closure area, particularly in the southwest corner of the closure where the terrain is rugged. The monitor observed 20 fence cuts during this period. On four occasions, drivers have backed trucks over the fence or knocked down gates. Motorcyclists and occasionally truck drivers have entered the closure from the unfenced area along Munsey Road and from private land on the north side. Motorcycle tracks were observed on 14 occasions and truck tracks were observed twice (McEwan undated).

Desert tortoises persist in this area (McEwan undated); however, their numbers have decreased dramatically. Vehicles driving cross-country pose a substantial risk to desert tortoises; if such events occur on a frequent basis, the number of desert tortoises may decrease to a point where a viable population is no longer present.

To address the issue of use of unauthorized routes, the Bureau has undertaken numerous remedial actions and proposed additional measures, through this plan amendment. Since March 2002, the Bureau has been undertaking an extensive program of monitoring and restoration work (attachments 1 and 2 from Bureau 2005c). Workers from the Student Conservation Association have closed 853 intrusions, installed 204 carsonite signs, restored approximately 23.6 miles of unauthorized trails, placed 445 straw bales, planted 650 live shrubs, and installed 75 drainage structures and 3.8 miles of fence (attachments 4 and 5 from Bureau 2005c). Maps prepared by the Bureau (attachment 6 from Bureau 2005c) depict the extensive network of unauthorized routes that the Bureau has made unavailable for use through this work. The Bureau estimates that at least 349 miles of unauthorized routes have been made unavailable for use through the work conducted by the Student Conservation Association (LaPre 2005q).

The Bureau's efforts to restore habitat and close unauthorized routes comprises an important component of managing vehicular use in the Rand Mountains. For example, the Bureau can more easily enforce its regulations with regard to unauthorized use if it has established a clear system of legal routes. The restoration of unauthorized routes, in large part, makes them more difficult to see; therefore, riders are far less likely to use them. In effect, the restoration work should establish an altered pattern of use in which riders restrict their activities to designated routes.

The Bureau's proposal to allow use of 129 miles of designated routes within the Rand Mountains - Fremont Valley Management Area is likely to result in injuries or mortalities to desert tortoises. As in most cases where dispersed use occurs, predicting the number of desert tortoises that could be killed or injured is not possible. We anticipate, however, that the potential for desert tortoises to be killed or injured will decrease because the extent of the route network will be substantially less than prior to the closure.

Requiring visitors to pay a fee and obtain a permit to use vehicles in the Rand Mountains may reduce the number of individuals who use the site for off-highway vehicle recreation; it may also increase the environmental awareness of riders who continue to use the area. In either case, the number of desert tortoises that may be struck by vehicles in the management area would likely decrease. The potential also exists that riders will transfer their recreational uses to other areas in the California Desert Conservation Area. We understand that a shift in use patterns occurred when the Bureau imposed an interim closure for part of the Imperial Sand Dunes Recreation Area in Imperial County. A shift in use may not be immediately detectable and may result in the establishment of new patterns of use before the Bureau recognizes them. If this situation occurs, the level of unauthorized off-road vehicle use may increase elsewhere in the California Desert Conservation Area, to the detriment of the desert tortoise.

The Bureau will withdraw 32,590 acres within the Rand Mountains - Fremont Valley Management Area from mineral location and entry. This action will benefit the desert tortoise by reducing the likelihood that desert tortoises will be killed or injured by new mining activities.

Retaining areas within the Koehn Lake and Randsburg areas as Class I and open to mineral entry is unlikely to have substantial direct effects on the desert tortoise because neither area supports

high quality habitat; previous disturbance, lake bed and lake-edge habitat conditions around Koehn Lake, and higher elevations around Randsburg are the likely reasons for the lower number of animals. We cannot assess, at this time, the specific effects of human use of these areas on the desert tortoise; we should be able to provide better estimates of the number of desert tortoises that may be affected during site- and project-specific reviews.

In summary, the implementation of the proposed management for the area comprising the Rand Mountains and Fremont Valley should reduce the adverse effects of vehicle use and other activities, such as mining, on desert tortoises. For this reason, this component of the proposed amendment to the California Desert Conservation Area Plan is not likely to reduce the reproduction, numbers, or distribution of the desert tortoise.

Effects on Critical Habitat of the Desert Tortoise

Implementation of the Rand Mountains – Fremont Valley Management Plan may promote the conservation role and function of critical habitat. The previous section documented the level of unauthorized use that occurred in the closed area in late 2002 and early 2003 and the remedial actions that the Bureau has undertaken since that time. The restoration work may not restore the primary constituent elements of critical habitat of the desert tortoise in and of itself. However, because the evidence of previous use has largely been removed, riders may be more likely to restrict themselves to designated routes; if areas outside of these routes are not continually disturbed by vehicle use, the potential exists that the primary constituent elements of critical habitat, such as appropriate substrates, forage plants, and scrubs may begin to attain pre-disturbance characteristics.

The Bureau's proposal to allow use of 129 miles of designated routes within the Rand Mountains - Fremont Valley Management Area is not likely to degrade the conservation role and function of critical habitat. These routes have been in use for years; consequently, the primary constituent elements of critical habitat have already been removed from the area within these designated routes and their continued use in an authorized manner will not degrade adjacent lands. More importantly, the vast majority of the area covered by the management plan remains available to support the primary constituent elements of critical habitat.

Requiring visitors to pay a fee and obtain a permit to use vehicles in the Rand Mountains may reduce the number of individuals who use the site for off-highway vehicle recreation; it may also increase the environmental awareness of riders who continue to use the area. In either case, the amount of unauthorized use in the management area would likely decrease; consequently, the condition of the primary constituent elements, particularly those related to the composition of the annual and perennial plant communities and nature of substrates, would likely improve. The potential also exists that riders will transfer their recreational uses to other areas in the California Desert Conservation Area. We understand that a shift in use patterns occurred when the Bureau imposed an interim closure for part of the Imperial Sand Dunes Recreation Area in Imperial County. A shift in use may not be immediately detectable and may result in the establishment of new patterns of use before the Bureau recognizes them. If this situation occurs, the level of

unauthorized off-road vehicle use may increase elsewhere in the California Desert Conservation Area, to the detriment of critical habitat of the desert tortoise.

The Bureau will withdraw 32,590 acres within the Rand Mountains - Fremont Valley Management Area from mineral location and entry. This action will reduce the likelihood that new mining activities will disturb the primary constituent elements of critical habitat; consequently, this action would support the conservation role and function of critical habitat of the desert tortoise.

In summary, the implementation of the proposed management for the area comprising the Rand Mountains and Fremont Valley should reduce the adverse effects of vehicle use and other activities, such as mining, on critical habitat of the desert tortoise. For this reason, this component of the proposed amendment to the California Desert Conservation Area Plan is not likely to compromise the conservation role and function of critical habitat.

Amendment 8, Adoption of Standards and Guidelines for Management of Grazing. The Bureau has proposed numerous modifications to the management prescriptions for livestock grazing. Our analysis first considers the effects of livestock grazing on the desert tortoise and its critical habitat. We then consider the likely effects on the desert tortoise and the primary constituent elements of its critical habitat of the general management prescriptions proposed by the Bureau in the West Mojave Plan. Finally, we evaluate the effects of the grazing program, as modified by the Bureau's prescriptions in the West Mojave Plan, on the desert tortoise and its critical habitat in the Western Mojave Recovery Unit.

Effects of the Livestock Grazing

Effects on the Desert Tortoise

Livestock grazing affects desert tortoises in several ways. Desert tortoises can be killed or injured during the construction, maintenance, and use of range improvements. Cattle have trampled desert tortoises. They also damage or destroy the burrows of desert tortoises. Predators, such as common ravens, can be attracted to and subsidized by livestock waters, carcasses of livestock, and some range improvements; predators attracted to or subsidized by these features could feed on desert tortoises.

The construction, maintenance, and use of range improvements would affect desert tortoises in a manner generally similar to other smaller projects. Vehicles and workers could trample desert tortoises during any phase of these operations. In comparison with a large-scale development such as a solar power plant, the construction, maintenance, and use of range improvements likely result in the injury and mortality of few desert tortoises.

Desert tortoises have been trampled by livestock both above ground or while they are in their burrows. Although documented instances exist of cattle crushing adult desert tortoises in their burrows, neonate and juvenile desert tortoises are likely at some greater risk of trampling because they use rodent burrows for shelter. Rodent burrows are often shallowly excavated and

run parallel to the surface of the ground; therefore, they are more vulnerable to trampling by livestock than burrows of sub-adult and adult desert tortoises. The propensity for rodents to place their burrows near and under shrubs may offer some degree of protection.

No data exist on the frequency at which cattle trample desert tortoises. Cattle likely pose a low degree of risk to adult desert tortoises and possibly sub-adults above ground, simply because cattle would likely try to avoid stepping on what essentially would appear to them to be a rock (Boarman 2002). Cattle would be more likely to trample desert tortoises when they are being herded; while traveling in groups and at a faster rate, cattle are less likely to be aware of their surroundings. Finally, an important concept to consider is that numerous cattle, distributed over large areas of desert tortoise habitat, present a greater likelihood of killing or injuring more desert tortoises than fewer cattle grazing over a smaller area; simply stated, fewer hooves in proximity to fewer desert tortoises are less likely to cause trampling.

Avery and Neibergs (1997) found that more burrows of desert tortoises were partially or completely destroyed in areas that were grazed by cattle than in a fenced area. Within the enclosure, desert tortoises remained in their burrows all night significantly more than animals located outside the enclosure, which would be expected because more burrows were damaged outside of the enclosure. The increased time spent outside of their burrows likely exposes desert tortoises to greater risk of predation and to temperature extremes.

Common ravens can be attracted to livestock waters, carcasses of livestock, and some range improvements. Common ravens are likely better able to survive and have greater reproductive success because of ranching activities. Increasing the number of potential predators poses a greater level of risk of predation to desert tortoises; additionally, common ravens attracted to carcasses and range improvements may also feed on desert tortoises. In a similar vein to that discussed in the previous paragraph, more range improvements over a greater area likely provide greater level of subsidy than a limited number of cattle facilities; large subsidies likely lead to greater numbers of common ravens, which, in turn, would be able to consume more desert tortoises.

We do not have information that conclusively links livestock grazing to recent declines in the numbers of desert tortoises in California. Until recently, the eastern Mojave Desert supported the highest densities of desert tortoises and was also the region most heavily used for cattle grazing. However, the effects of grazing may function in combination with other factors in the environment to lower the fitness of desert tortoises.

Livestock grazing, as implemented under the direction of the California Desert Conservation Area Plan, likely kills or injures desert tortoises. The magnitude of the mortality of desert tortoises attributable to the trampling of individuals or their burrows and increased predation by common ravens is extremely difficult to quantify, simply because cattle, common ravens, and desert tortoises are so widely distributed.

As noted previously in this section, until recent declines occurred, desert tortoises in the eastern Mojave Desert of California seemed to persist in the presence of cattle. For this reason, we

assume that cattle do not likely kill many desert tortoises, although we are aware that some individuals are killed by grazing livestock. We are unaware of any positive effects of livestock on desert tortoises.

Sheep grazing affects desert tortoises in ways that are similar to grazing by cattle. The primary differences are related to the timing of sheep grazing and their management within tight bands. Because sheep are grazed in the Mojave Desert only during the spring months, the range improvements used for their grazing are temporary; additionally, sheep carcasses would be unavailable for most of the year. Therefore, any subsidies that common ravens receive from sheep would be of limited duration; however, these temporary subsidies may increase reproductive success of some pairs of common ravens because the sheep grazing overlaps temporally with their nesting period. Sheep are more likely to trample desert tortoises than cattle because they are managed in tight bands of over 1,000 animals; as with cattle, smaller desert tortoises are at greater risk of being trampled than larger individuals. In a study using various sizes of Styrofoam models, sheep trampled 20 percent of the juvenile "desert tortoises" and only 2 and 3 percent of the adult- and subadult-sized models (Tracy 1996 in Boarman 2002). Other studies have demonstrated that sheep also destroy desert tortoise burrows (Berry 1978, Nicholson and Humphreys 1981, Tracy 1996, and Webb and Stielstra 1979 in Boarman 2002).

An additional consideration when one is evaluating the effects of the Bureau's livestock grazing program on desert tortoises is that the Bureau does not authorize grazing at the same level every year. The number of animal unit months that are authorized varies with the condition of the forage. This variation in animal unit months is particularly important with regard to cattle; in the case of sheep grazing, the Bureau may not authorize any sheep grazing at all if forage conditions are not appropriate. Additionally, when the Bureau authorizes grazing in any given year, it cannot predict the precise areas within an allotment where grazing will occur. Consequently, given the variation in levels of authorization, grazing patterns, and the distribution of desert tortoises, any analysis of the effects of livestock grazing on this species lacks precision.

The Bureau approves numerous actions and makes decisions throughout the year with regard to the grazing of livestock in the California Desert Conservation Area; these actions and decisions range from day-to-day decisions on the abundance of forage, the results of health assessments, development of range improvements, annual authorizations, and allotment management plans. Since the listing of the desert tortoise (and designation of its critical habitat), the Bureau and Service have consulted numerous times on livestock grazing; the provisions of the West Mojave Plan have modified the Bureau's previous proposed actions that we evaluated in those biological opinions, which have considered the effects of the grazing program on the desert tortoise (and, where appropriate, its critical habitat) in the planning area. Our analyses have taken into consideration the overall effects of livestock grazing and the types of decisions and actions that the Bureau makes with regard to the management of livestock. For this reason, we do not consider it necessary to consult on future actions that are within the scope and intent of management that we considered in this and previous consultations. Therefore, although we welcome any opportunity to coordinate with the Bureau, we do not consider consultation to be necessary on actions such as day-to-day decisions on the abundance of forage, the results of health assessments, annual authorizations, and other minor activities that do not alter the basic

effects of the actions upon which we have consulted previously. The development of range improvements and allotment management plans can alter the basic workings of an allotment and, in turn, the effects on the desert tortoise (and its critical habitat); therefore, the Bureau should continue to consult on these actions. In conclusion, the Bureau and Service will not consult on grazing issues again, except as noted for the development of specific range improvements and allotment management plans, unless the agencies determine that re-initiation of consultation is required, as described at 50 *Code of Federal Regulations* 402.16.

Effects of Livestock Grazing on Critical Habitat

Livestock grazing affects habitat of the desert tortoise in numerous ways. Most of the effects are subtler than those of construction projects where the primary constituent elements of critical habitat can be removed quickly, totally, and permanently. For this reason, we have generally described each primary constituent element of critical habitat of the desert tortoise and then evaluated the effects of livestock grazing on specific aspects of the primary constituent element.

A primary constituent element of critical habitat of the desert tortoise is the maintenance of sufficient space to support viable populations within each of the six recovery units and to provide for movement, dispersal, and gene flow. Livestock grazing does not result in the complete and total removal of the primary constituent elements of critical habitat on every acre of every allotment. The development of range improvements within an allotment, such as the construction of stock tanks and corrals, could remove some areas that support the primary constituent elements of critical habitat; in some cases, these facilities could be located in previously disturbed areas that do not support the primary constituent elements. The primary constituent elements of critical habitat may also be completely removed from areas where livestock congregate in large numbers for extended periods of time. In relation to the size of the allotments, these areas are very restricted in size. Most of the activity associated with grazing of cattle and its effects are more widely scattered over space and time; the effects of sheep grazing are somewhat different because they graze in tight bands.

The second primary constituent element of critical habitat of the desert tortoise comprises sufficient quality and quantity of forage species and the proper substrate conditions to provide for the growth of these species. Livestock grazing decreases the amount of plant cover and biomass and can change the species composition of plant communities over large areas (Lovich and Bainbridge 1999). Humphrey (1958, 1987 in Boarman 2002) noted that livestock was implicated in the conversion of grass-dominated communities to shrub lands; however, other factors such as fire suppression, rodents and other herbivores, and competition probably influenced the conversion. (Note that this review primarily evaluated native grasslands of Arizona, New Mexico, and Texas; the Mojave Desert in California likely did not support extensive grasslands in historic times.) Other authors note that grazing reduces the amount of herbaceous species and increases that of woody species (Roundy and Jordan 1988, Vaughan 1982 and 1984 in Service 1994b) and that non-native species, such as Mediterranean grass and cheatgrass (*Bromus tectorum*), benefit from grazing (Berry and Nicholson 1984 and Kie 1990 in Service 1994b). Desert tortoises feed primarily on herbaceous species; therefore, the

replacement of native herbaceous species with shrubs, which they generally do not consume, results in a net loss of appropriate forage for desert tortoises.

Avery (1998) found that a grazed area had a significantly lower diversity of winter annuals when compared to an ungrazed area. In addition, the ungrazed area contained more individuals of the desert dandelion (*Malacothrix glabrata*), a forage plant preferred by desert tortoises. The ungrazed and grazed areas did not differ in biomass, cover, density and species richness of annual plants. Boarman (2002) notes that, because the ungrazed area had been fenced to exclude cattle for only 12 years, the effects of previous grazing may still be present. Changes in species composition could be unfavorable to desert tortoises if palatable and nutritious plants are replaced by those that do not provide adequate nutrition.

Non-native grasses have spread to the deserts and other arid areas of North America and reduced the relative abundance of native species (Mack 1981, D'Antonio and Vitousek 1992, and Rundel and Gibson 1996 in Avery 1998); livestock grazing has, at least, contributed to their spread. Regardless of whether they are native or introduced, annual desert grasses contain less crude protein, calcium, sodium, and water than desert forbs (Oftedal et al. 1993 and McArthur et al. 1994 in Avery 1998). Avery (1998) found that desert tortoises eating Mediterranean grass (*Schismus* spp.) *ad libitum* exhibited a negative nitrogen balance. Generally, turtles consuming a diet low in protein (i.e., where the nitrogen concentration in forage is low) experience reduced growth rates (Gibbons 1967, 1970, Parmenter 1980, Vogt and Guzman 1988, and Avery et al. 1993 in Avery 1998) and lower egg production (White 1993 and Henen 1993, 1997 in Avery 1998). Because desert tortoises are more vulnerable to predation when they are smaller, reducing their rate of growth may eventually result in fewer individuals reaching breeding age. Additionally, decreases in the number of eggs would reduce eventual recruitment into the adult population. If growth rates and egg production are lowered over wide areas for long periods of time, a decline in the population would be likely. Avery (1998) also noted that Mediterranean grass had high concentrations of heavy metals; we are uncertain how these elements affect the desert tortoise. Because desert tortoises require a diet of a variety of herbaceous species that provided important nutrients, the replacement of native herbaceous species with non-native herbaceous species, which are less nutritious, results in a net loss of appropriate forage for desert tortoises. Finally, desert habitats that have been invaded by Mediterranean grass, bromegrass (*Bromus* spp.), and Sahara mustard are prone to wildfire; the effects of fire on desert tortoises and their habitat are discussed elsewhere in this biological opinion.

As discussed in the Status of the Species section of this biological opinion, neonate desert tortoises consume germinating annual plants. These small plants would be trampled by livestock and, depending on the number and distribution of livestock, could be eliminated from the forage base in a local area. Because neonate desert tortoises are less likely to be able to travel great distances in safety for food, the effects of grazing in a local area may be relatively greater on them than on sub-adults and adults.

Livestock grazing can also damage soil crusts (Lovich and Bainbridge 1999) and thereby affect the ability of the land to maintain the proper substrate conditions to provide for the growth of sufficient quality and quantity of forage species. Disturbance to soil crusts may increase erosion

by wind and water, which could result in further damage to plants in surrounding areas. The loss of cryptogamic or microbiotic crusts, which are composed of nitrogen-fixing lichens and fungi, may reduce the ability of substrates to support native annual plants; the disturbance of crusts also likely reduces the amount of favorable germination sites for seeds of native annual plants and the moisture-holding capacity of the soils. A study by DeFalco (et al. 2001) demonstrated that the higher nitrogen content of substrates with microbiotic crusts may allow non-native herbaceous species to grow faster and thus attain a competitive advantage over native plant species. An implication of this study is that the spread of non-native species may be more detrimental to native ecosystems than was previously thought because undisturbed substrates may not provide a competitive advantage to native plant species.

Sheep graze differently than cattle; that is, they often pull plants from the ground rather than biting off portions. Also, they are grazed in tight bands that often contain well over 1,000 individuals. For these reasons, sheep can have severe local impacts on this primary constituent element of critical habitat. For example, a band of sheep can remove most of annual plants and trample most of the substrate, including any cryptogamic crusts, in a local area in a fairly short period of time. In large areas of the western Mojave Desert where sheep have grazed over time, most of the native annual plants are confined to the coppice mounds of shrubs that afford them some protection from grazing. The vegetation in the intershrub areas is dominated by Mediterranean grass and filaree (*Erodium cicutarium*), both of which are not native. The lack of a diverse assemblage of native annual species in such areas may compromise the ability of desert tortoises to obtain the nutrients they require. We acknowledge that sheep grazing has not altered the flora of other areas of the western Mojave Desert as dramatically as in the area southwest of Barstow; other factors may also be affecting how a given area reacts to grazing pressure.

The third primary constituent element comprises suitable substrates for burrowing, nesting, and overwintering. The desert tortoise spends a considerable portion of its life underground, where it can avoid predators and the temperature extremes of the desert; they also lay their eggs at the mouths of their burrow in shallow holes. Therefore, substrates that are suitable for these functions are crucial for the recovery of the species. Although livestock may occasionally trample a burrow, they generally do not alter the substrates throughout allotments to the degree that burrowing is no longer possible. Livestock can, however, substantially alter the substrate in areas where they congregate on a frequent basis. Through alteration of the basic structure of the substrate, livestock render these areas unsuitable for burrowing or placement of nests. Livestock tend to congregate near salt licks and tanks and are occasionally restrained in corrals; the substrates in these areas are highly unlikely to be able to support burrowing and nesting by desert tortoises.

Burrows, caliche caves, and other shelter sites comprise the fourth primary constituent element of critical habitat. Livestock can crush burrows that are not protected from trampling. They also can damage shrubs to the extent that the plants no longer provide adequate cover for desert tortoises; livestock damage shrubs when they push into them to graze herbaceous plants growing on coppice mounds at the base of the shrubs and to seek shade. Most caliche caves are likely protected from crushing by their location in steeper banks and by the harder composition of the substrate. A reduction of the number of shelter sites within the territory of the desert tortoise is

likely to cause the resident animal to spend more time in the open and seeking or constructing burrows; energy expended in these activities cannot be used for foraging and reproduction.

The fourth primary constituent element of critical habitat of the desert tortoise is sufficient vegetation for shelter from temperature extremes and predators. Avery (1998) found that a grazed area had significantly larger creosote bushes (*Larrea tridentata*), more dormant or dead burrobushes *(Ambrosia dumosa*), fewer and smaller individuals of galleta grass (*Hilaria rigida*), and more individuals of cheesebush (*Hymenoclea salsola*, an indicator of disturbance) when compared to an ungrazed area. Boarman (2002) notes that, because the ungrazed area had been fenced to exclude cattle for only 12 years, the effects of previous grazing may still be present. Changes in species composition could be unfavorable to desert tortoises if plants that provide less cover are replaced by those that do not provide desert tortoises with adequate protection. Note that the differences in shrub cover (larger creosote bushes, more dormant or dead burrobushes, more individuals of cheesebush) Avery described, as discussed in this paragraph, do not universally constitute adverse effects on the desert tortoise. Because of their usual structure, burrobushes generally provide better shelter sites than cheesebush; however, larger creosote bushes are likely more than suitable cover sites.

The final primary constituent element is habitat protected from disturbance and human-caused mortality. As discussed in the Effects on the Desert Tortoise section of this livestock element, implementation of the Bureau's guidance for livestock grazing likely results in few desert tortoises being directly killed or injured. Except for times when cattle are being actively driven, activity levels associated with cattle grazing seems to be relatively minor. The transport of sheep into grazing areas and the movement of sheep in tight bands constitutes a greater level of activity.

As we noted in the discussion of the effects of livestock grazing on desert tortoises, several factors involved in this analysis involve a large degree of variation. First, the Bureau does not authorize grazing at the same level every year. The number of animal unit months that are authorized varies with the condition of the forage. This variation in animal unit months is particularly important with regard to cattle; in the case of sheep grazing, the Bureau may not authorize any sheep grazing at all if forage conditions are not appropriate. Additionally, when the Bureau authorizes grazing in any given year, it cannot predict the precise areas within an allotment where grazing will occur. Consequently, given the variation in levels of authorization, grazing patterns, and the patchiness of the distribution of the primary constituent elements of critical habitat, any analysis of the effects of livestock grazing on critical habitat lacks precision.

Effects of the Bureau's Management Prescriptions for Livestock Grazing

Effects on the Desert Tortoise

The Bureau has proposed to remove cattle carcasses that are located within 300 feet or a road or watering source within 2 days. This action will reduce, to some degree, food subsidies to common ravens. If the reduction in food base reduces the number of common ravens, the amount of predation on desert tortoises by common ravens may decrease. The removal of

carcasses may not affect the number of common ravens in the region because so many other factors are involved, such as the amount of food available to common ravens that is not associated with cattle carcasses. Additionally, because a relatively small area of the desert is located within 300 feet of roads or watering sources, we expect that, unless cattle die at a substantially higher rate adjacent to roads than elsewhere, a small portion of dead cattle will be found in such areas. Ranchers traveling cross-country in their vehicles to remove carcasses may crush desert tortoises; however, because the Bureau will limit the distance ranchers may travel off of roads, we expect that few desert tortoises would be killed or injured while carcasses are being removed. Given the size of some allotments, the potential exists that carcasses may be well-scavenged before anyone finds them. If carcasses are thoroughly scavenged when they are found, they will no longer provide food to common ravens. Leaving them in place is likely to pose less risk to desert tortoises than driving cross-country to collect them; additionally, the bones from these carcasses can also provide desert tortoises with a source of calcium over time. Consequently, the removal of cattle carcasses may benefit desert tortoises; however, we expect that the benefits will be difficult to measure.

The voluntary relinquishment of all grazing use would provide substantial conservation benefits to desert tortoises in areas that are most heavily affected by livestock and the activities of the ranchers. These areas of concentrated livestock and human use are where desert tortoises are most likely to be trampled by cattle or crushed by human activities associated with grazing. The removal of livestock would reduce the level of subsidy (e.g., water, food in the form of carcasses and afterbirth, and nesting sites) for common ravens. The magnitude of this benefit would vary with the status of the desert tortoise in the specific allotment.

The Bureau will modify all cattle guards in habitat of the desert tortoise within 3 years of adoption of the West Mojave Plan to prevent entrapment of desert tortoises. Because desert tortoises can be trapped and die in poorly designed cattle guards, this measure will reduce or possibly eliminate mortality from this source and will therefore promote the conservation of the desert tortoise. Although we are aware that some desert tortoises have been trapped in cattle guards, we do not know how frequently such entrapment may occur.

The Bureau's decision to prohibit issuance of temporary non-renewable grazing permits in desert wildlife management areas for all lands below an elevation of 4,000 feet will ensure that additional cattle are not present during the times when desert tortoises are foraging most actively. Consequently, the threat of trampling will not increase during this period.

Granting ephemeral authorization in cattle allotments that are not located within the boundaries of desert wildlife management areas when ephemeral production exceeds 230 pounds per acre would expose desert tortoises to a greater risk of trampling because more cattle would be using the allotment. As we have stated previously, the overall risk of cattle trampling desert tortoises is likely low; the likelihood is less on these allotments where desert tortoises occur in lower densities.

Many of the management prescriptions for sheep are similar to those for cattle and would, in general, ameliorate the effects to desert tortoises in the same manner. As we noted in the

discussion of the effects of livestock grazing on desert tortoises, sheep likely trample smaller desert tortoises more frequently than cattle because of the manner and numbers in which they graze. To attempt to reduce the threat of trampling, the Bureau will limit the number of sheep that can be combined in a band, after the removal of lambs, to 1,600 adult sheep. We are not aware of any data that indicate how the size of a band affects trampling rates. Intuitively, smaller bands may trample fewer desert tortoises; consequently, this measure may reduce the mortality of desert tortoises. Additionally, any measure that results in sheep being removed from habitat of the desert tortoise because of forage limitations will reduce the likelihood of trampling.

The removal of sheep from the 10,633-acre Mojave Monkeyflower Conservation Area in Brisbane Valley is likely to protect desert tortoises to a substantial degree, primarily because desert tortoises likely persist in this area in moderate densities. We note that the Bureau's proposal to "work with the lessee to clearly identify monkeyflower habitat to be avoided" may be insufficient to prevent sheep from entering this conservation area. We base this statement on the fact that flocks of sheep have regularly entered Edwards Air Force Base for many years, even though the boundary is fenced; we are unclear on the precise mechanism, but the fence often seemed to break in areas of abundant forage.

Effects on Critical Habitat

The removal of cattle carcasses will not, in and of itself, affect the primary constituent elements of critical habitat. Cross-country driving associated with the removal of carcasses could affect the primary constituent elements of critical habitat by crushing annual plants that desert tortoises consume, damaging shrubs that they use for cover, and altering substrates by causing compaction or accelerating erosion. Because cattle would only be removed when they are found within 300 feet of a road, we expect that little cross-country vehicular travel is likely to occur as a result of this activity. We expect that ranchers would remove relatively few cattle from a limited portion of critical habitat; therefore these effects are likely to be extremely limited in scale.

The voluntary relinquishment of all grazing use by a lessee would benefit the conservation role and function of critical habitat units by eliminating all adverse effects to the primary constituent elements associated with grazing. Livestock grazing can alter the shape, size, and structure of shrubs that provide shelter to desert tortoises. In areas that are not heavily disturbed by grazing, this primary constituent element of critical habitat may return within a relatively brief period of time, particularly if a series of normal or high rainfall years follows the retirement of grazing. The return of some primary constituent elements of critical habitat, such as appropriate substrates and composition of native forage plants, to pre-grazing conditions is likely to take much longer, particularly around watering sites and corrals where livestock concentrated their activities. The potential exists that different species of plants would colonize these disturbed areas before these sites once again resemble the local plant community. Non-native species that have been spread by and have thrived under a regime of livestock grazing are likely to persist for decades; the potential exists that these species will never be completely removed from the landscape. The magnitude of this benefit would vary with the amount of critical habitat that is grazed within each critical habitat unit; we would expect to see immediate benefits during times of the year

when desert tortoises are actively foraging because competition for resources with livestock would have been eliminated.

Modifying existing cattle guards and installing new ones in a manner to prevent entrapment of desert tortoises is likely to cause extremely localized effects to the primary constituent elements of critical habitat because of the small work area that would likely be required. These localized and primarily temporary effects would certainly not compromise the conservation role and function of any critical habitat unit.

The Bureau's decision to prohibit issuance of temporary non-renewable grazing permits in desert wildlife management areas for all lands below an elevation of 4,000 feet will ensure that desert tortoises will not face additional competition from cattle for annual plants during the times when they are foraging most actively. The nutritional balance of desert tortoises is one of the keys to their survival; years of above-average rainfall and abundant forage may allow young desert tortoises to grow more rapidly and all individuals to improve their overall health. This proposed action may assist substantially in allowing desert tortoises to make use of the forage component of the primary constituent elements of critical habitat.

Many of the management prescriptions for sheep are similar to those for cattle and would, in general, ameliorate the effects to the primary constituent elements of critical habitat in a similar manner. Because the effects of sheep grazing on the quality and quantity of forage species and the substrate conditions to provide for the growth of these species tend to be more intense than those of cattle, prescriptions that reduce the level of sheep use likely provide a relatively greater degree of benefit. Consequently, reducing the effect of sheep grazing on this primary constituent element of critical habitat would promote the conservation role and function of the critical habitat unit.

Effects of the Proposed Grazing Program on the Desert Tortoise and its Critical Habitat

In this section, we will evaluate the effects of grazing within each allotment on the desert tortoise and its critical habitat, where applicable. Livestock grazing occurs on both public and private lands in a manner that is more or less inter-related, depending upon the specific circumstances surrounding the allotment. Additionally, grazing by sheep and cattle differs in some general, fundamental aspects.

For example, public lands comprise all or a large portion of some allotments; in the latter case, Bureau and private lands are also usually intermixed. For example, the Lava Mountain Allotment is composed exclusively of public lands. The Hansen Common and the southern portion of the Rudnick Common allotments, where they overlap habitat of the desert tortoise, provide an example of areas where public and private land are completely interwoven; in such allotments, grazing generally occurs in a uniform manner across the landscape because the boundaries between public and private land are not easily determinable. Consequently, in cases where the pattern of land ownership dictates that the manner of grazing is highly unlikely to cause different levels of effects between public and private lands, we will consider the effects of grazing on both public and private lands.

In contrast, some livestock allotments contain substantially more private than public land; in several cases, the private land occurs in large contiguous blocks, such as in the vicinity of California City and south of Edwards Air Force Base. In such areas, livestock operators graze sheep in a fundamentally different manner than is required by the Bureau on public lands. For example, operators will move sheep over the same area more than once in a season (in contrast with the one pass allowed by the Bureau); they will also operate in areas with less forage and frequently graze on private lands before and after the Bureau opens public lands to grazing, when forage conditions are appropriate. Finally, the public land health standards and the regional standards and guidelines under which the Bureau operates on public lands are not in force on private lands. Consequently, the effects on the desert tortoise and its critical habitat of grazing on large blocks of private lands are highly likely to be substantially different than those on public lands and in situations where public and private lands occur in a checkerboard pattern.

Because these large blocks of private land provide an adequate resource, livestock operators can and do graze sheep on such lands independently of authorized use of public lands. Finally, the environmental impact report and statement states that the Bureau's proposed grazing programs affect public lands only. The environmental impact report and statement does not address the grazing of livestock on private land (Bureau et al. 2005: section 2.2.5.2 regarding cattle; section 2.2.5.5 regarding sheep). Consequently, this biological opinion does not evaluate the effects of the livestock grazing on large blocks of private lands.

The Bureau will no longer authorize grazing on certain allotments for various reasons. Specifically, the Cronese Lake, Cady Mountain, and Harper Lake allotments have been acquired by the Department of the Army to offset the use of additional training lands at Fort Irwin. The area in which the Goldstone Allotment is located has been transferred to the Department of the Army. The Gravel Hills and Superior Valley allotments are located entirely within critical habitat of the desert tortoise. The Pilot Knob Allotment has been purchased by a conservation buyer. Because of the lack of public lands outside of critical habitat, the Bureau does not expect to authorize grazing on the Buckhorn Canyon Allotment; it has not been grazed since 1987 (Bureau 2005c). Because desert tortoises and their critical habitat will not be affected by grazing in these areas, we will not analyze the effects of grazing on these allotments in this biological opinion. The acreages reflected in the following discussion of specific allotments include only those areas that would be affected by the Bureau's proposed action; that is, they do not include large blocks of private lands where grazing may occur in a manner that is substantially different than that managed by the Bureau.

Bissell Allotment

The Bissell Allotment is grazed by sheep. It is located north of Highways 58; the majority of the allotment is within the corporate boundary of California City. Most of the land is within private ownership; the Bureau manages several scattered parcels. The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information is from the Bureau (2005c) and the final environmental impact report and statement.

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	0	2,360	0	2,360
Other Lands	0	46,529	0	46,529
Totals	0	48,889	0	48,889

The Bissell Allotment is not located within a desert wildlife management area or critical habitat unit. Desert tortoises likely occur in low densities here as a result of past grazing, off-road vehicle use, and other human activities. Consequently, the Service has not considered this area as important for the recovery of the desert tortoise.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public lands; additionally, relatively few animals likely persist in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise on public lands is not substantially degraded from its current condition. We are unable to assess the effects of grazing on the desert tortoise in the remainder of the allotment because of the large amount of private land; these areas are outside of the action area of this consultation.

Boron Allotment

The Boron Allotment is grazed by sheep. It is located northwest of the junction of Highways 58 and 395. The eastern portion of the allotment is in primarily a checkerboard pattern of land ownership; the central and western portions are largely in private ownership. The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information in the following table is from the final environmental impact report and statement.

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	0	10,868	0	10,868
Other Lands	0	71,993	0	71,993
Totals	0	82,861	0	82,861

This allotment is not located within a desert wildlife management area or critical habitat unit. Desert tortoises likely occur in low densities here as a result of past grazing, off-road vehicle use, and other human activities. Consequently, the Service has not considered this area as important for the recovery of the desert tortoise.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public lands; additionally, relatively few animals likely persist in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise on public lands is not substantially degraded from its current condition. We are unable to assess

the effects of grazing on the desert tortoise in the central and western portions of the allotment because of the large amount of private land; these areas are outside of the action area of this consultation.

Cantil Common Allotment

The Cantil Common Allotment is grazed by sheep. It is located east of Highway 14 from just north of Highway 58 to south of Highway 178. The allotment is partially within the corporate boundary of California City. Most of the land within the portion of the allotment south of the Rand Mountains is privately owned; the Bureau manages most of the land within the allotment in and north of the Rand Mountains. The following table depicts the distribution of desert tortoise habitat in relation to land ownership under the grazing system implemented by the Bureau. The information is from the Bureau (2005c) and the final environmental impact report and statement.

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	6,196	197,371	0	203,567
Other Lands	5,442	121,992	0	127,434
Totals	11,638	319,363	0	331,001

The Cantil Common Allotment is partially located within a desert wildlife management area. Desert tortoises occur in low densities as a result of past grazing, off-road vehicle use, and other human activities. North of the Rand Mountains, off-road vehicle use has not been as prevalent as it is on the private land to the south. Additionally, the number of desert tortoises was likely historically lower north of the Rand Mountains because this area is nearing the northern and western edges of their range. The Service has not considered this area as important for the recovery of the desert tortoise.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public lands and on interspersed non-federal lands; additionally, relatively few animals likely persist in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise on public lands is not substantially degraded from its current condition. We are unable to assess the effects of grazing on the desert tortoise in the portions of the allotment that consist of large blocks of private land; these areas are outside of the action area of this consultation. These areas include private lands in the southern portion of the allotment that lie south of the Rand Mountains and in the northern portions of the allotment that lie in the southern Indian Wells Valley and due west of the boundary of the Naval Air Weapons Station, China Lake (see attached map of the northern and southern portions of this allotment).

Approximately 6,196 acres of critical habitat on public lands within the Fremont-Kramer Critical Habitat Unit would be grazed (Chavez 2005b). The Bureau will use roads to define manageable boundaries of grazed areas, rather than relying on the boundaries contained in the final rule for the designation of critical habitat of the desert tortoise; in many cases, the boundaries of critical

habitat were drawn on section lines, which cannot be detected on the ground. This amount of grazing will not compromise the conservation role and function of critical habitat because it will affect only a small portion at the edge of the 518,000-acre Fremont-Kramer Critical Habitat Unit.

Hansen Common Allotment

The Hansen Common Allotment is grazed by both cattle and sheep. It is located west of Highway 14 and south of Red Rock Canyon State Park. Most of the allotment is not located within habitat of the desert tortoise; within the area where desert tortoises are most likely to occur, the Bureau manages most of the land (see maps 3-1 and 3-10 of the final environmental impact report and statement). Cattle grazing generally does not occur within habitat of the desert tortoise; desert tortoise habitat is grazed by sheep (Sjaastad 2005a). The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information is from the final environmental impact report and statement.

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	0	2,747	32,101	34,848
Other Lands	0	962	36,292	37,254
Totals	0	3,709	68,393	72,102

The Hansen Common Allotment is not located within a desert wildlife management area or critical habitat unit. Desert tortoises likely occur in low densities here as a result of past grazing, off-road vehicle use, and other human activities; additionally, this area occurs at the western edge of their range in this portion of the desert. Consequently, the Service has not considered this area as important for the recovery of the desert tortoise.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public lands; additionally, relatively few animals likely persist in this area. Given the small area of private land that would also be grazed (962 acres) and its proximity to a larger amount of public lands, we anticipate that the effects of grazing throughout this area would be similar; consequently, we expect that few desert tortoises are likely to be killed or injured on private lands within this allotment. The measures proposed by the Bureau should ensure that habitat for the desert tortoise is not substantially degraded from its current condition.

Johnson Valley Allotment

The Johnson Valley Allotment is an ephemeral allotment; it is currently vacant but may be grazed by sheep at some time in the future. It is located northeast of Highway 247. Most of the allotment is located on public land. The following table depicts the distribution of desert tortoise

habitat in relation to land ownership. The information is from the final environmental impact report and statement and Chavez (2005f).

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	429	108,734	0	109,163
Other Lands	0	9,134	0	9,134
Totals	429	117,868	0	118,297

The Johnson Valley Allotment is not located within a desert wildlife management area; it overlaps, to a large degree, the Johnson Valley Off-highway Vehicle Management Area. A small portion of the allotment overlaps the Ord-Rodman Critical Habitat Unit; as in the case with the Cantil Common Allotment, our mapping of the critical habitat unit followed section lines and the Bureau's allotment boundaries follow roads.

Desert tortoises occur in low densities within the Johnson Valley Allotment as a result of past grazing, off-road vehicle use, and other human activities. Consequently, the Service has not considered most of the lands within this allotment as important for the recovery of the desert tortoise. The grazing of approximately 433 acres of critical habitat on private lands, which would not occur but for the Bureau's authorization of grazing on public lands in this allotment, will not compromise the conservation role and function of the Ord-Rodman Critical Habitat Unit because it will affect a minor portion of the 253,200-acre critical habitat unit. Additionally, the areas that are potentially open for grazing are located on the edge of the critical habitat unit, on the opposite side of Camp Rock Road from most of the critical habitat unit and the desert wildlife management area that the Bureau proposes to manage for the recovery of the desert tortoise. The road forms much a more manageable boundary than the actual lines of the critical habitat designation.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public or private lands; relatively few animals likely persist in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise is not substantially degraded from its current condition.

Lava Mountain Allotment

The Lava Mountain Allotment is grazed by sheep. It is located east of Highway 395 and north of the Fremont-Kramer and Superior-Cronese critical habitat units. The Bureau manages the entire allotment. The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information is from the final environmental impact report and statement.

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	2,165	18,737	0	20,902
Other Lands	0	0	0	0
Totals	2,165	18,737	0	20,902

The Lava Mountain Allotment is not located within a desert wildlife management area. Desert tortoises likely occur in low densities, based on the information available from the adjacent Naval Air Weapons Station, China Lake. The Service has not considered most of this area as important for the recovery of the desert tortoise.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public lands; additionally, relatively few animals likely persist in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise is not substantially degraded from its current condition.

Approximately 2,165 acres of critical habitat on public lands within the Fremont-Kramer and Superior-Cronese critical habitat units would be grazed. The Bureau will use roads to define manageable boundaries of grazed areas, rather than relying on the boundaries contained in the final rule for the designation of critical habitat of the desert tortoise; in many cases, the boundaries of critical habitat were drawn on sections lines, which cannot be detected on the ground. This amount of grazing will not compromise the conservation role and function of critical habitat because it will affect only small portions of habitat at the edges of the 518,000-acre Fremont-Kramer Critical Habitat Unit and the 766,900-acre Superior-Cronese Critical Habitat Unit.

Monolith-Cantil Allotment

The Monolith-Cantil Allotment is grazed by sheep. It is located west of Highway 395 and south of the Rand Mountains. The Bureau manages most of the portion of the allotment within San Bernardino County; approximately 700 acres in this portion of the allotment are privately owned. A large block of private land within the allotment lies within Kern County (see attached map). The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information is from LaPre (2005m).

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	0	10,825	0	10,825
Other Lands	0	3,544	0	3,544
Totals	0	14,739	0	14,739

The Monolith-Cantil Allotment is not located within a desert wildlife management area or in critical habitat. Desert tortoises occur in low densities here as a result of past grazing, off-road vehicle use, and other human activities. The Service has not considered most of this area as important for the recovery of the desert tortoise.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public lands; additionally, relatively few animals likely persist in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise is not substantially degraded from its current condition.

We are unable to assess the effects of grazing on the desert tortoise within the large block of private land that is located within Kern County. This area, which covers approximately 2,800 acres, is outside of the action area of this consultation.

Ord Mountain Allotment

The Ord Mountain Allotment is grazed by cattle. It is located east of Highway 247 and south of Interstate 40. The Bureau manages most of the lands within the allotment, although the operator owns several thousand acres within its boundaries. Given the proximity of private lands to public lands, we consider all of the private lands to be within the action area. The following table depicts the distribution of desert tortoise habitat in relation to land ownership; the acreages in this table include lands over 4,000 feet in elevation on which desert tortoises are likely to less abundant. The information is from LaPre (2005j).

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	107,961	28,144	0	136,105
Other Lands	17,193	1,559	0	18,752
Totals	125,154	29,703	0	154,547

The Ord Mountain Allotment is located within the Ord-Rodman Desert Wildlife Management Area. Densities of desert tortoises vary throughout the allotment; they are likely most common on alluvial fans at lower elevations. Portions of the allotment at higher elevations, specifically along Camp Rock Road, have been heavily grazed to the degree that the plant associations typically found in such locations are absent. Desert tortoises are likely scarce or possibly absent from such areas. These areas may be located on private lands.

Within the Ord Mountain Allotment, the Bureau's exclusion of cattle from March 15 to June 15 from 34,185 acres of the desert wildlife management area when forage levels fall below 230 pounds will reduce, to some degree, the effects of cattle grazing on desert tortoises on public lands. The potential exists that the operator may move the cattle entirely to private lands during this time; if this situation occurs, the quality of habitat on private lands will continue to be degraded. If, as we noted in the previous paragraph, desert tortoises are scarce or absent on the

private lands where the quality of habitat is heavily degraded, concentrating cattle in these areas for 3 months of the year may have no further effect on individuals or their habitat.

We note that approximately 5,000 acres of the private lands within the Ord Mountain Allotment are located within areas over 4,000 feet in elevation (Bureau 2004b); these areas are likely not important for the conservation of desert tortoises simply because of their greater elevation. Conversely, approximately 13,700 acres of private land may be situated in habitat that is of higher quality for desert tortoises and may be subject to increased grazing pressure. Although the amount of private land within the allotment that is below 4,000 feet in elevation is not trivial, it is scattered over a large area and constitutes a relatively small portion of the Ord-Rodman Desert Wildlife Management Area. For these reasons, cattle grazing, as the Bureau proposes to manage it in the desert wildlife management areas, will not reduce appreciably the reproduction, numbers, or distribution of the desert tortoise in the Western Mojave Recovery Unit.

The Ord Mountain Allotment is the only allotment of substantial size within critical habitat where grazing continues to occur in the planning area. This allotment contains approximately 107,961 acres of critical habitat on public lands that lie within the 253,200-acre critical habitat unit. As we noted previously in this biological opinion, most desert tortoises reside at elevations between 1,000 and 3,000 feet and large portions of the Ord Mountain Allotment are located at 4,000 feet or higher in elevation; these areas of higher elevation likely do not support the primary constituent elements of critical habitat on a widespread basis. We cannot quantify the area within the boundaries of the critical habitat unit that do not support the primary constituent elements because of elevation; however, we can use the distribution of desert tortoise sign as an indication of suitable habitat. During surveys conducted from 1998 through 2002, the highest counts of desert tortoise sign were detected in the northwestern, southwestern, and eastern portions of the Ord-Rodman Critical Habitat Unit; all of these areas lie below 4,000 feet in elevation (Bureau 2003b); the map seems to indicate that a limited amount of sign was detected above 4,000 feet, seemingly on south-facing bajadas and in canyons. In summary, based on the available data, we cannot assess the precise amount of critical habitat within the Ord-Rodman Critical Habitat Unit that supports the primary constituent elements; we note that this is the case for every critical habitat unit but the situation is more pronounced in this region because of the prominence of high elevation areas.

Other factors confound the assessment of the effects of cattle grazing on the Ord-Rodman Critical Habitat Unit. First, the Bureau notes, in the final environmental impact report and statement, that the Ord Mountain Allotment is "not achieving public health standards in habitat for the desert tortoise." Specifically, approximately 9 percent (10,000 acres) of the allotment did not achieve the species standard during a rangeland health assessment in 1999 (Chavez 2005c). Some of the areas that did not meet standards were at higher elevations, in locations that do not support the primary constituent elements of critical habitat of the desert tortoise. The Bureau assesses only the portion of the allotment that lies on public lands.

Second, the primary constituent elements within the Ord-Rodman Critical Habitat Unit are not uniformly distributed; the higher elevations of the Ord, Rodman, and Newberry Mountains separate areas of more suitable habitat for the desert tortoise. Consequently, the more scattered

distribution of the primary constituent elements (when compared with other areas, such as in the Superior-Cronese Critical Habitat Unit) and the uneven grazing levels complicate an overall assessment of the effects of grazing on critical habitat of the desert tortoise. However, most of the larger bajadas where the primary constituent elements of critical habitat are present lie outside of the Ord Mountain Allotment; for this reason and because areas within the allotment continue to support the primary constituent elements, we conclude that this level of grazing is not likely to compromise the conservation role and function of the critical habitat unit.

Rattlesnake Canyon Allotment

The Rattlesnake Canyon Allotment is grazed by cattle. It is located south of Highway 247. Most of the land is the managed by the Bureau. The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information is from Chavez (2005e).

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	0	12,800	14,032	26,832
Other Lands	0	5	1,920	1,925
Totals	0	12,805	15,952	28,757

The Rattlesnake Canyon Allotment is not located within a desert wildlife management area or critical habitat unit. Desert tortoises occur here in low densities, most likely because this area occurs at the edge of their range in this portion of the desert and most of the allotment is located at higher elevations. Consequently, the Service has not considered this area as important for the recovery of the desert tortoise.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public or private lands; additionally, relatively few animals likely reside in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise is not substantially degraded from its current condition. We anticipate that, because of the small amount of private lands, the effects of grazing are likely to be similar throughout habitat of the desert tortoise, regardless of land ownership.

Rudnick Common Allotment

The Rudnick Common Allotment is authorized for grazing by both cattle and sheep. The Bureau will not authorize both uses in the same location. It is located west of Highway 14 and south of Highway 178. Most of the northern portion of the allotment is managed by the Bureau; the southern portion exists in a checkerboard pattern of ownership; the Bureau manages most of the land within the area that desert tortoises are most likely to inhabit. The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information is from the final environmental impact report and statement and Sjaastad (2005c).

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	0	60,040	103,838	163,878
Other Lands	0	18,960	58,984	77,944
Totals	0	79,000	162,822	241,822

The Rudnick Common Allotment is not located within a desert wildlife management area or critical habitat unit. Desert tortoises occur here in low densities, most likely because this area occurs at the edge of their range. Consequently, the Service has not considered this area as important for the recovery of the desert tortoise.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public lands or private lands; additionally, relatively few animals likely reside in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise is not substantially degraded from its current condition. We anticipate that, because of the distribution of public and other lands, the effects of grazing are likely to be similar throughout habitat of the desert tortoise, regardless of land ownership.

Shadow Mountain Allotment

The Shadow Mountain Allotment is grazed by sheep. Most of the allotment is located west of Highway 395 and southeast of Edwards Air Force Base; a portion of the allotment extends east of Highway 395. The land ownership throughout large portions of the allotment is a mix of public and non-federal lands; the southwestern edge, southeastern corner, and easternmost portion of the allotment are largely privately owned. The Bureau manages most of the land within the portion of the allotment that overlaps the El Mirage Off-highway Vehicle Management Area. The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information is from LaPre (2005r).

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	596	16,965	0	17,561
Other Lands	1,280	31,305	0	32,585
Totals	1,876	48,270	0	50,146

The Bureau would allow grazing within a small portion of the Fremont-Kramer Desert Wildlife Management Area within this allotment. Desert tortoises occur in low densities as a result of past grazing, off-road vehicle use, and other human activities.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public lands; additionally, relatively few animals likely persist in

this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise is not substantially degraded from its current condition. We are unable to assess the effects of grazing on desert tortoises in the portions of the allotment where private land is present (see attached map of the allotment).

Approximately 596 acres of critical habitat on public lands within the Fremont-Kramer Critical Habitat Unit would be grazed (LaPre 2005j). The Bureau will use Shadow Mountain, Adobe Mountain, and Lake roads to define manageable boundaries of grazed areas, rather than relying on the boundaries contained in the final rule for the designation of critical habitat of the desert tortoise; in many cases, the boundaries of critical habitat were drawn on sections lines, which cannot be detected on the ground. This amount of grazing will not compromise the conservation role and function of critical habitat because it will affect only a small portion at the edge of the 518,000-acre Fremont-Kramer Critical Habitat Unit.

Spangler Hills Allotment

The Spangler Hills Allotment is grazed by sheep. It is generally located between the two land holdings of the Naval Air Weapons Station, China Lake. Most of the allotment is located on public land. Approximately 10,000 acres that are not managed by the Bureau have been withdrawn by the Navy for a corridor between its two land holdings and as part of the Naval Air Weapons Station (Sjaastad 2005b). The Bureau manages grazing within the land that comprises the corridor. Because the withdrawn land is a linear corridor along a road and sheep pose a threat to vehicles and their drivers on the road, the amount of grazing that occurs within this area is probably fairly limited (Sjaastad 2005c). Grazing does not occur on the Naval Air Weapons Station. The State of California and private parties own approximately 800 acres of the allotment. The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information is from the final environmental impact report and statement, LaPre (2005n), and Sjaastad (2005c).

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau and Navy	0	068,183	0	68,183
Other Lands	0	958	0	958
Totals	0	69,141	0	69,141

The Spangler Hills Allotment is not located within a desert wildlife management area; it overlaps, to a large degree, the Spangler Hills Off-highway Vehicle Management Area. Desert tortoises occur in low densities here, partially, as a result of past grazing, off-road vehicle use, and other human activities; additionally, this area is near the edge of the desert tortoise's range. Consequently, the Service has not considered this area as important for the recovery of the desert tortoise.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public lands or non-federal lands; additionally, relatively few animals likely persist in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise is not substantially degraded from its current condition. We anticipate that, because of the distribution of public and other lands, the effects of grazing are likely to be similar throughout habitat of the desert tortoise, regardless of land ownership.

Stoddard Mountain Allotment

The Stoddard Mountain Allotment is grazed by sheep. It occurs in three sections, to the south and west of Barstow. The eastern portion of the allotment extends from the west side of Highway 247 to Interstate 15; in this section, public lands occur in a braided pattern with non-federal lands. In this area, the allotment overlaps, to a large degree, the Stoddard Off-highway Vehicle Management Area. The middle portion of the allotment lies between Interstate 15 and Highway 66; public lands are generally consolidated in two large blocks in this portion of the allotment. The westernmost portion of the allotment lies west of Highway 66. The Bureau will not authorize grazing in the western portion of the allotment (LaPre pers. comm. 2006). The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information is from LaPre (2005r).

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	0	77,536	0	77,536
Other Lands	0	85,307	0	85,307
Totals	0	162,843	0	162,843

The Stoddard Mountain Allotment is not located within a desert wildlife management area or in a critical habitat unit. Desert tortoises occur in low densities here as a result of past grazing, off-road vehicle use, and other human activities. Consequently, the Service has not considered this area as important for the recovery of the desert tortoise.

In the eastern portion of the allotment, few desert tortoises are likely to be killed or injured on public or non-federal lands under the grazing system proposed by the Bureau for this allotment; additionally, relatively few animals likely persist in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise is not substantially degraded from its current condition. We anticipate that, because of the distribution of public and other lands, the effects of grazing are likely to be similar throughout habitat of the desert tortoise, regardless of land ownership (see attached map of the allotment).

In the Middle Stoddard Allotment, few desert tortoises are likely to be killed or injured on public lands under the grazing system proposed by the Bureau for this allotment; we expect that this area supports relatively few desert tortoises. The Bureau will not allow grazing to occur within the Mojave Monkeyflower Area of Critical Environmental Concern, which occupies 10,633

acres in the Middle Stoddard Allotment; consequently, sheep grazing will not affect desert tortoises in this area. Desert tortoises on approximately 5,787 acres of public land in the Middle Stoddard Allotment will be affected by grazing of livestock (Service 2006). We are unable to assess the effects of grazing on the desert tortoise in the middle portion of the Stoddard Allotment that consists of large blocks of private land; these areas are outside of the action area of this consultation.

Tunawee Common Allotment

The Tunawee Common Allotment is authorized for grazing by both cattle and sheep. The Bureau will not authorize both uses in the same location. Cattle have not grazed the allotment since 1993; sheep have grazed the allotment since 1994 (Bureau et al. 2005). It straddles Highway 395 a few miles north of the Inyo-Kern county line. The Bureau manages all of the land within habitat of the desert tortoise. The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information is from the final environmental impact report and statement.

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	0	1,800	49,929	51,729
Other Lands	0	0	4,202	4,202
Totals	0	1,800	54,131	55,931

The Tunawee Common Allotment is not located within a desert wildlife management area or critical habitat unit. Desert tortoises occur here in low densities, most likely because this area occurs at the edge of their range. Consequently, the Service has not considered this area as important for the recovery of the desert tortoise.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public lands, primarily because relatively few animals likely reside in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise is not substantially degraded from its current condition.

Walker Pass Allotment

The Walker Pass Allotment is grazed by cattle. It is located west of Highway 395 and straddles the Inyo-Kern county line. The Bureau manages most of the land; private lands within habitat of the desert tortoise are interspersed with public lands. The following table depicts the distribution of desert tortoise habitat in relation to land ownership. The information is from the final environmental impact report and statement.

Land Status	Acres within the Allotment			
	Critical Habitat	Other Desert Tortoise Habitat	Not Desert Tortoise Habitat	Total
Bureau	0	26,058	62,100	88,158
Other Lands	0	6,000	2,816	8,816
Totals	0	32,058	64,916	96,974

The Walker Pass Allotment is not located within a desert wildlife management area or critical habitat unit. Desert tortoises occur here in low densities, most likely because this area occurs at the edge of their range. Consequently, the Service has not considered this area as important for the recovery of the desert tortoise.

Under the grazing system proposed by the Bureau for this allotment, few desert tortoises are likely to be killed or injured on public or private lands, primarily because relatively few animals likely reside in this area. The measures proposed by the Bureau should ensure that habitat for the desert tortoise is not substantially degraded from its current condition. We anticipate that, because of the distribution of public and other lands, the effects of grazing are likely to be similar throughout habitat of the desert tortoise, regardless of land ownership.

Summary of the Effects of the Livestock Grazing

Through the proposed amendment of the California Desert Conservation Area Plan within the planning area, the amount of livestock grazing on public lands within the action area that affects the desert tortoise and its critical habitat will decrease a substantial amount. Other allotment-specific measures proposed by the Bureau through the amendment process will also alter the existing situation with regard to grazing.

Effects on the Desert Tortoise

Livestock would no longer graze in the Gravel Hills, Pilot Knob, Harper Lake, Cady Mountain, Buckhorn Canyon, and Cronese Lakes allotments and in portions of the Superior Valley, Lava Mountain, Shadow Mountain, Cantil Common, Monolith-Cantil, Lacey-Cactus-McCloud, and Stoddard Mountain allotments as a result of actions proposed by the Bureau. Consequently, approximately 762,000 acres of desert tortoise habitat within the planning area would not be grazed (Service calculations based on information from the Bureau). (The Goldstone Allotment and the remaining portion of the Superior Allotment will also no longer be grazed. The Army will use these areas for training; consequently, we did not include the acreage of these areas in the amount of ungrazed habitat.)

The decreased number of sheep and cattle on allotments in the planning area would reduce, to some degree, the likelihood that desert tortoises will be trampled. The lack of activity with regard to the construction, operation, and maintenance of range improvements would likely reduce the potential for desert tortoises to be killed by ranchers conducting these activities.

We cannot quantify any change in the level of mortality because of the vast areas involved, the varying densities of desert tortoises, and the randomness with which mortality associated with livestock grazing likely occurs.

The Bureau's proposal to allow voluntary relinquishment of the remaining allotments may further reduce the level of mortality of desert tortoises, if operators opt to pursue this course of action. The establishment of forage thresholds should reduce, to a small degree, the level of mortality of desert tortoises on allotments that will be grazed.

The removal of livestock and their waters will reduce subsidies to common ravens. The carcasses and afterbirth of livestock and artificial waters will no longer be available over large areas to provide common ravens with food and water. We expect that the decrease in the subsidies from livestock grazing will affect the common raven population to some unquantifiable degree. Although a decrease in the number of birds may not be noticeable, the likelihood exists that, to some degree, predation by common ravens on young desert tortoises will decrease.

Grazing would continue on approximately 136,105 acres of habitat that supports or has recently supported moderate to higher densities of desert tortoises, primarily within the Ord Mountain Allotment. (This acreage includes all desert tortoise habitat identified on public lands within the boundaries of the Ord Mountain Allotment (LaPre 2005j).) Grazing would also continue on approximately 646,752 acres of habitat that supports lower densities of desert tortoises. These lower densities result from past and ongoing human activities, lower quality habitat at the edge of the range of the species, or a combination of these factors.

We conclude that the grazing program proposed by the Bureau is not likely to appreciably affect the reproduction, numbers, or distribution of the desert tortoise in the action area. We have reached this conclusion because grazing would occur on approximately 136,105 acres of the higher quality habitat on which the Bureau has proposed to establish desert wildlife management areas; the desert wildlife management areas proposed by the Bureau would cover approximately 1,023,329 acres. (The acres of higher quality habitat identified in the previous sentence comprise the acreage of critical habitat on public lands within the Ord Mountain Allotment (LaPre 2005j).) Additionally, the intensity at which the Bureau proposes to allow grazing, both within and outside of desert wildlife management areas, should enable desert tortoises to obtain sufficient nutrition.

Effects on Critical Habitat

Livestock would no longer graze in the Gravel Hills, Harper Lake, and Cronese Lakes allotments and in portions of the Superior Valley, Lava Mountain, Shadow Mountain, Cantil Common, Monolith-Cantil, and Stoddard Mountain allotments as a result of actions proposed by the Bureau. Consequently, approximately 718,000 acres of critical habitat of the desert tortoise within the planning area would not be grazed. (The Goldstone Allotment and the remaining portion of the Superior Allotment will also no longer be grazed. These areas will be used for training by the Army; consequently, we did not include the acreage of these areas in the amount of ungrazed habitat.) This decrease will eliminate the direct adverse effects of grazing on the

primary constituent elements of critical habitat. Non-native plant species whose spread across the landscape may have been assisted by grazing will not disappear from desert tortoise critical habitat; however, the potential exists that the removal of livestock may decrease the suitability of areas for invasive species that are already present and assist in preventing the introduction of new exotic species.

The Bureau's proposal to allow voluntary relinquishment of the remaining allotments may further eliminate adverse effects of grazing on the primary constituent elements of critical habitat, if operators opt to pursue this course of action. The establishment of forage thresholds should reduce, to some degree, the adverse effects of grazing on allotments that will be grazed.

Grazing would continue on approximately 110,000 acres of critical habitat. Most of this acreage is located within the Ord Mountain Allotment. The remaining areas of critical habitat that would continue to be grazed are relatively small parcels that are located at the edges of critical habitat units. These parcels, in total, cover approximately 8,000 acres.

We conclude that the grazing program proposed by the Bureau is not likely to compromise the conservation role and function of critical habitat of the desert tortoise in the action area. We have reached this conclusion because grazing would occur on approximately 110,000 acres of critical habitat. At least portions of the grazed areas are located at elevations where some of the primary constituent elements of critical habitat are not found naturally. Most of the critical habitat within the planning area, which totals approximately 1,670,479 acres (Service 2005g), would not be grazed. Additionally, the intensity at which the Bureau proposes to allow grazing within critical habitat should reduce, to some degree, the adverse effects of grazing on the primary constituent elements.

Amendment 9, Public Land Vehicle Access Network

Through adoption of the West Mojave Plan, the Bureau proposes to designate various types of routes as open to vehicular travel within desert tortoise habitat. The route designation process involved two inventories of routes in the western Mojave Desert. The Bureau conducted its initial review of certain regions from 1985 through 1987; the remainder of the routes was reviewed in 2001 and 2002. The following table lists the types and mileages of routes that the Bureau has designated that may affect the desert tortoise; note that only the total mileage of the 1985 – 1987 routes is available (LaPre 2005e).

Types of Routes	Miles of Routes Within Critical Habitat	Miles of Routes Outside of Critical Habitat
Single Track	140	63.4
Jeep Trails, Two-Tracks, etc.	1,539.6	357.8
Washes	59.6	2.2
1985 - 1987 Inventory	491.6	2,809.8
Total	2,230.8	3,233.2

Effects on the Desert Tortoise

As we have previously noted in this biological opinion, vehicle access exposes desert tortoises to numerous threats. Although vehicle strikes may be the most obvious impact, it may not be the most deleterious effect on desert tortoise populations. Open routes allow increased human access into areas where desert tortoises reside; although many of the casual uses associated with open routes do not directly threaten desert tortoises, these routes also provide access for numerous unauthorized activities, such as poaching, vandalism, and cross-country riding.

Limited routes pose the same threats to desert tortoises as open routes; however, because use of these routes is restricted to specific users and uses, the degree of threat is greatly reduced. The Bureau has designated only 30.6 miles of limited routes within desert tortoise habitat in the planning area (LaPre 2005h).

We have also noted previously in this biological opinion that neither the Bureau or the Service have definitive information on the size of a route network that would have such minimal effects on the desert tortoise that its overall conservation would not be affected; obviously, we expect that roadless areas would not adversely affect desert tortoises. The extent that the changes in the access network affect the desert tortoise will be difficult to measure because of the slow reproductive rate of the species and other factors, such as disease, drought, and predation, which may be affecting the number of individuals in a region.

Despite the indirect effects of open routes and lack of the definitive information cited in the preceding paragraph, the route network proposed by the Bureau in the West Mojave Plan should reduce the adverse effects of vehicle use of the desert tortoise for several reasons. First, the amendment proposed by the Bureau would reduce the amount of existing open routes in subregions that overlap critical habitat of the desert tortoise in the western Mojave Desert from approximately 4,062 to 2,475 miles (Coyote, El Mirage, Fremont, Kramer, Newberry-Rodman, Ord, and Superior subregions, plus the Black Mountain, Rainbow Basin, and Western Rand Mountains areas of critical environmental concern). The Bureau et al. (2005) note that, for several subregions, a proportionately higher number of route closures are in areas characterized by bajada topography. Conversely, a proportionately higher number of routes were designated as open in more mountainous terrain. Desert tortoises are generally more abundant on bajadas and valleys than in mountains areas; also, instances of authorized and unauthorized off-road travel would likely occur less frequently in mountainous terrain. Overall, such a network of routes of travel would have fewer adverse effects on desert tortoises than the current network.

The Bureau's proposal to designate approximately 15 miles of new open routes and approximately 20 miles of open routes as competition routes adjacent to the Spangler Hills Off-highway Vehicle Management Area could cause the loss of some desert tortoises in this region. We expect that few desert tortoises would be affected because they generally occur in lower numbers in this area, possibly as a result of previous vehicular activity and its more northerly location. The closure of approximately 35 miles of currently open routes within the Fremont-Kramer Desert Wildlife Management Area to offset the opening of the routes near the Spangler Hills Off-highway Vehicle Management Area should reduce the potential that desert tortoises

will be affected by vehicular use; these closures are in an area that is capable of supporting moderate to high densities of desert tortoises. Overall, this proposal should result in a net benefit to the desert tortoise.

Finally, we note that the proposed action establishes a network of roads that is more extensive than those proposed by the 1985-87 inventory and the interim network that resulted from the settlement agreement with the Center for Biological Diversity. Realistically, however, the route network in the western Mojave Desert at the current time consists of any route that shows evidence of prior use. The proposed alternative would allow vehicle use only on routes marked as open. Clearly, establishing a well-defined system of marked routes would reduce the density of routes and thereby reduce mortality of desert tortoises.

The Bureau also discusses measures to attempt to reduce the effects of open routes on desert tortoises. For example, it cites the current law regarding speed limits on unimproved roads. We note that this law, as described by the Bureau in the final environmental impact report and statement, would be enforced for "the safety of other persons and property." Because desert tortoises do not fall into that category, current law is likely not enforceable strictly for their protection, particularly much lower speeds are necessary to protect desert tortoises than are generally needed to protect persons and property. Additionally, we expect that the local law enforcement agencies lack the ability to patrol regularly enough to enforce this standard. Therefore, we expect that the enforcement of speed limits on unpaved roads is unlikely to provide substantial protection to desert tortoises.

The final environmental impact report and statement notes that, if monitoring or studies show that certain unimproved roads are causing an increased level of mortality of desert tortoises, the Bureau will consider ways, including speed regulators, to reduce or avoid these effects. This strategy of adaptive management would generally be appropriate; however, many factors render this issue a difficult one to resolve. In the case of desert tortoises in the Western Mojave Recovery Unit, we do not have sufficient baseline data on the level of mortality on unimproved roads to judge whether an increase has occurred. We doubt that the Bureau has sufficient resources to monitor unimproved roads at a level that would provide the baseline and subsequent information, particularly since carcasses in the desert are usually scavenged so quickly that monitors may need to find them almost immediately to ascertain the cause of death with certainty. Additionally, so few desert tortoises remain in some areas of the Western Mojave Recovery Unit that establishing trends may be statistically impossible. Speed may not be the only factor that results in the killing of desert tortoises; small individuals are difficult to see under the best circumstances and large animals may be missed as a vehicle makes a sharp turn or comes over a rise in the road. Finally, we are unaware of any monitoring technology or management strategy that would be effective over such a large area. We again note that the best strategy to protect desert tortoises from vehicles is to separate them from roaded areas to the greatest degree possible.

This action is authorized under the guidance of the California Desert Conservation Area Plan as a casual use and would become effective upon the Bureau's signing of the record of decision.

Consequently, the Bureau and Service will not consult on this causal use again, unless the agencies determine that re-initiation of consultation is required, as described at 50 *Code of Federal Regulations* 402.16.

Effects on Critical Habitat

The use of vehicles on roads and trails that are designated as open or limited will not, in general, adversely affect most of the primary constituent elements of critical habitat because these biological and physical attributes are not present within roadbeds. Some roads support annual plants, possibly even at greater local densities than on adjacent, undisturbed habitat, because of alterations in the hydrological regime caused by the road. Although such areas may be of value to a few desert tortoises, they are not so extensive that they substantially alter the patterns of the distribution of forage plants.

Routes have the potential to fragment habitat and interfere with movement, dispersal, and gene flow; this ability to move and disperse is a central tenant of the first primary constituent element of critical habitat of the desert tortoise. Major highways, such as Interstate 15, are sufficiently wide and busy with vehicles that they form a virtually impenetrable barrier to movement of desert tortoises, if underpasses are not available. Unpaved roads that are used infrequently likely do not pose a threat of fragmentation; we are unaware of any dirt road or track within critical habitat of the desert tortoise that is so heavily traveled that movement of desert tortoises would be precluded. Ongoing road maintenance, which is an indirect effect of a route network, can lower the bed of the road and raise berms to a degree that desert tortoises that enter the roadway cannot exit. These animals are subsequently threatened with predation, exposure to extreme temperatures, collection, and collision with vehicles.

The primary effects of open routes on the primary constituent elements of critical habitat stem from the access they provide for unauthorized activities and as a corridor for the spread of invasive plant species. We noted the prevalence of off-road vehicle tracks that were observed on transects previously in this biological opinion; the final environmental impact report and statement contains additional discussion on this issue. Even a few passes by off-road vehicles can disturb and compact substrates, destroy annual plants, and damage shrubs; these features constitute the primary constituent elements of critical habitat. Additionally, a consistent pattern of behavior in the California Desert Conservation Area is that, once someone has driven through an area, other users deem it an appropriate activity; consequently, the damage to the primary constituent elements of critical habitat is exacerbated. Areas that are most heavily used for off-road activity no longer support the primary constituent elements of critical habitat.

Any user of open routes has the ability to spread non-native plants into desert wildlife management areas. As we have discussed previously in this biological opinion, non-native species can compromise the primary constituent element of critical habitat related to the availability of suitable forage species. They can also create large areas of standing dead material that are more likely to burn; these fires subsequently destroy the shrubs that desert tortoises rely on for shelter.

Amendment 10, Stopping and Parking of Motorized Vehicles and Vehicular Camping.

Through adoption of the West Mojave Plan, the Bureau will amend the California Desert Conservation Area Plan to allow camping in association with motorized vehicles in previously existing disturbed camping areas adjacent to motorized vehicle routes designated as open and the stopping and parking of motorized vehicles within 50 feet of the centerline of the designated route in desert wildlife management areas. Outside of desert wildlife management areas, on public lands administered by the Bureau, stopping, parking and camping associated with motorized vehicles must occur within 300 feet of routes designated as open in accordance with existing regulations.

Effects on the Desert Tortoise

Desert tortoises may be killed or injured as a result of camping in association with motorized vehicles in previously existing disturbed areas and stopping and parking within 50 feet of the centerline of routes within desert wildlife management areas in the planning area. Desert tortoises that are crossing or residing in these disturbed areas would be at risk if a vehicle uses the area at the same time the animal is present. Additionally, desert tortoises may enter disturbed areas after the vehicle is parked to take cover in its shade; the desert tortoise could then be crushed if the vehicle moves. The likelihood that desert tortoises would be killed is likely far less in disturbed areas than in undisturbed areas because the drivers of vehicles are likely more able to see animals without the full component of vegetation that is normally present; additionally, desert tortoises are likely to spend less time in these areas because of the more compact substrates and less vegetation available for shelter and forage.

Reducing the distance from the centerline of the road in which vehicles are allowed to stop and park within desert wildlife management areas from 300 to 50 feet should substantially decrease the likelihood that desert tortoises will be killed. Within the Fremont-Kramer, Superior-Cronese, and Ord-Rodman desert wildlife management areas, the area that is potentially available to stop and park will be reduced from approximately 124,372 to 23,117 acres (page 4-116 of the final environmental impact report and statement). Additionally, as we have noted previously in this biological opinion, the vegetation and terrain in large portions of the desert wildlife management areas will likely preclude the ability of vehicles to leave the designated routes; this factor will also reduce, to some degree, the risk that desert tortoises will be killed.

Outside of desert wildlife management areas, the distance from the centerline of the road that vehicles may stop, par, and camp will remain at 300 feet. Consequently, the risk to desert tortoises will remain unchanged from the current situation. The generally lower densities of desert tortoises outside of desert wildlife management areas is likely to result in relatively fewer animals being killed in these regions of the desert.

Neither we nor the Bureau can provide any quantitative information on how frequently desert users leave routes of travel for these distances to camp, stop, and park either within or outside of desert wildlife management areas. The final environmental impact report and statement notes that 77 of 100 staging areas, 931 of 1,369 camping areas, and 28 of 37 trailheads detected during field work in 2001 and 2202 were located within 100 feet of designated routes; it did not provide any further information on sites located between 50 to 300 feet from the road; consequently, we cannot determine the extent to which the proposed action will change the use of these areas.

This action is authorized under the guidance of the California Desert Conservation Area Plan as a casual use and would become effective upon the Bureau's signing of the record of decision. Consequently, the Bureau and Service will not consult on this causal use again, unless the agencies determine that re-initiation of consultation is required, as described at 50 *Code of Federal Regulations* 402.16.

Effects on Critical Habitat

The primary constituent elements of critical habitat are not likely to be affected to a substantial degree as a result of camping in association with motorized vehicles in previously existing disturbed areas because the value of the biological and physical attributes in such areas is likely already degraded. Stopping and parking within 50 feet of the centerline of routes within desert wildlife management areas in the planning area will adversely affect the primary constituent elements of critical habitat by compacting and disturbing substrates and crushing annual plants and possibly shrubs. The quantity of plants and substrates that are that affected is likely to be minor, in comparison to the amount of annual plants and substrates available within the desert wildlife management areas. The most deleterious effect to critical habitat may result from an acceleration of the spread of invasive plant species.

Reducing the distance from the centerline of the road in which vehicles are allowed to stop and park within desert wildlife management areas from 300 to 50 feet would substantially decrease the amount of critical habitat that could be affected by this activity. As we mentioned in the previous section of this biological opinion, the area that is potentially available to stop and park will be reduced from approximately 124,372 to 23,117 acres within the Fremont-Kramer, Superior-Cronese, and Ord-Rodman desert wildlife management areas (page 4-116 of the final environmental impact report and statement).

Because the boundaries of the critical habitat units and desert wildlife management areas do not entirely overlap, approximately 20.1 miles of routes are located on public lands within critical habitat units but outside of desert wildlife management areas (Pratini 2005). The following table depicts the approximate acreage of critical habitat that is open to stopping and parking. Note that, because the desert wildlife management areas are generally larger than the critical habitat units, the acreages depicted in the "Acreage of Area Open to Stopping and Parking - Within Desert Wildlife Management Areas" likely overestimate the size of areas that are open for stopping and parking.

Critical Habitat Unit	Total Acreage	Acreage of Public Lands	Acreage of Area Open to Stopping and Parking		
			Within Desert Wildlife Management Areas	Outside of Desert Wildlife Management Areas But Within Critical Habitat [1]	Total Within Critical Habitat
Superior-Cronese	772,000	380,592	9,833	260	10,093
Fremont-Kramer	518,000	283,710	10,138	43	10,181
Ord-Rodman	254,142	202,845	3,146	497	3,643
Pinto Mountain	171,700	103,771	Unavailable	573	Unavailable
Totals	1,715,842	970,918	23,117	1,373	23,917

[1] From Pratini 2005.

As the preceding table indicates, relatively minor portions of the critical habitat units are open to stopping and parking. The primary constituent elements of critical habitat will not be disturbed by these activities within the large portions of the critical habitat units that will not be opened to stopping and camping. Additionally, the Bureau's current guidance allows drivers to stop, park, and camp within 300 feet of the route. Under this policy, most people use existing disturbed areas and do not drive through areas with vegetation (Beck and Ahrens pers. comms. 2005); recreational users tend to use disturbed areas at least partially to avoid damage to their vehicles. Finally, as we have noted previously in this biological opinion, the vegetation and terrain in large portions of the critical habitat units will likely preclude the ability of vehicles to leave the designated routes. These factors will also reduce, to some additional degree, the areas in which the primary constituent elements of critical habitat are likely to be disturbed by these activities. Consequently, the Bureau's proposal to allow stopping and parking within approximately 23,917 acres of critical habitat within the planning area is not likely to compromise the conservation role and function of these critical habitat units.

Miscellaneous Actions, Johnson Valley to Parker Race Corridor

The Bureau proposes to retain the Johnson Valley to Parker race corridor, which passes along the southeastern edge of the Ord-Rodman Desert Wildlife Management Area and the Ord-Rodman Critical Habitat Unit.

Effects to the Desert Tortoise

Desert tortoises are present in at least medium densities in this reach of the corridor; desert tortoises could potentially be killed during any event that is held when they are active. Densities of desert tortoises decline to the east of the Pisgah Crater area; therefore, desert tortoises are less likely to be directly affected by races in that area. In areas that contain sensitive resources, such the relatively greater numbers of desert tortoises near Pisgah Crater, the Bureau would impose "yellow flag" conditions, which could include speed limits, rules concerning passing, and other measures to avoid or reduce impacts (LaPre 2005g); these measures should reduce, to some degree, the potential mortality of desert tortoises.

The Bureau will consider whether to authorize individual events when they are proposed by applicants. Consequently, it will consult with the Service, under the auspices of section 7(a)(2) of the Act, as appropriate if an event is proposed.

Effects on Critical Habitat

Because of the way the Service drew the boundaries of the Ord-Rodman Critical Habitat Unit, the race corridor will be located slightly within its boundaries. The Bureau proposes to limit use of this race corridor to designated open routes. Consequently, vehicles will not travel off of established roads and, therefore, will not disturb the primary constituent elements of critical habitat to a substantial degree. We expect that any straying of riders off of the road will be minimal. To the degree that riders do stray, some disturbance of the primary constituent elements of critical habitat would likely occur, in the form of compacted and disturbed substrates and damaged annual plants and shrubs. Given that we expect this disturbance to be confined to the immediate vicinity of the open route and to be very minor in extent relative to the size of the critical habitat unit, we do not expect that the occasional straying of riders from the road will compromise the function of the critical habitat unit.

Summary of the Effects of the California Desert Conservation Area Plan, as Amended, on the Desert Tortoise and its Critical Habitat

Effects on the Desert Tortoise

The proposed amendment of the California Desert Conservation Area Plan for the Western Mojave Recovery Unit would increase protection of the desert tortoise above the current management situation that occurs within this region. Additionally, except for casual uses (e.g., casual mining exploration, vehicle use on existing roads, hiking, and vehicle camping along existing roads) and ongoing grazing, activities and projects will receive site-specific environmental review and consultation with the Service, pursuant to section 7(a)(2) of the Act, as appropriate. Therefore, all activities and projects, except casual uses, may be denied, modified, or mitigated to reduce adverse effects to desert tortoise if, as proposed for some future specific activity, they would violate section 7(a)(2) of the Act. As we have noted previously in this biological opinion, section 6840 of the Bureau of Land Management Manual states that the Bureau's policy is to "ensure that (its) actions will not reduce the likelihood of survival and recovery of any listed species or destroy or adversely modify their critical habitat."

This biological opinion also addresses specific actions that were adopted as part of the West Mojave Plan to implement various aspects of the recovery plan for the desert tortoise. The following discussion summarizes important components of the West Mojave Plan and its effects on the desert tortoise.

The Bureau's proposal to designate all lands within desert wildlife management areas as Class L should provide increased protection to the desert tortoise over that currently provided by Class M guidance; however, the Bureau can authorize actions within Class L areas that could kill desert tortoises. The proposal to limit the cumulative amount of ground disturbance to one percent

should ensure that the vast majority of desert tortoises residing on public lands within the desert wildlife management areas are conserved in a manner that provides for their survival and recovery.

The designation of routes in desert wildlife management areas, with an overall reduction in the amount of the road network, should reduce the level of mortality of desert tortoises on roads; it should also reduce the area in which they are threatened by other human activities related to access (e.g., poaching, vandalism). Neither the Bureau nor the Service has definitive information on how differing route networks affect the desert tortoise. Roadless areas would have the least adverse effect on desert tortoises; an access network that provides for large expanses of undisturbed habitat for the desert tortoise would seem to provide the opportunity for recovery. The extent that the changes in the access network affect the desert tortoise will be difficult to measure because of the slow reproductive rate of the species and other factors, such as disease, drought, and predation, which may be affecting the number of individuals in a region.

The desert tortoise will benefit from the Bureau's proposal to allow the voluntary relinquishment of grazing leases and related authorizations; cattle have been removed from several allotments and sheep have not grazed substantial areas of critical habitat since it was designated. As a result of this action, only one cattle allotment remains within a desert wildlife management area in this bioregion; desert tortoises will be threatened with trampling and crushing by cattle and operators on a far smaller area.

Reducing the distance that cars and trucks can drive and park from up to 300 feet from a route of travel to 50 feet in the desert wildlife management areas provides a greater degree of protection to the desert tortoise. The requirement that camping be limited to existing disturbed areas provides an additional level of protection.

Maintaining a corridor for competitive events along the Johnson Valley to Parker route is likely to kill or injure desert tortoises. We do not have sufficient information to assess the likely level of mortality at this time. The Bureau's review of a specific proposed race in the future will provide an opportunity to review the potential level of mortality in adequate detail. We note that the Bureau eliminated the western fragment of the corridor for the Barstow to Las Vegas race course; this action eliminates a potential threat to desert tortoises.

The Bureau has proposed to withdraw several areas from mineral location and entry. This action has the potential to reduce to a substantial degree the number of desert tortoises that may be killed during casual use and under future plans of operation.

The acquisition of private lands within desert wildlife management areas will remove at least some threats that desert tortoises may face on non-federal lands; this acquisition will also facilitate the Bureau's management. The addition of lands to the retention zone in the West Mojave Land Tenure Adjustment Program will increase the area within which desert tortoises may be conserved.

Programs to educate visitors about the desert tortoise and how they can assist in conserving the species will also promote recovery of the species. A permitting and education program for use of vehicles in the Rand Mountains may be particularly beneficial, given the difficulty that the Bureau has had in enforcing compliance with the route network in this area.

The California Desert Conservation Area Plan, as amended by the West Mojave Plan, provides guidance, including the requirement to consider the needs of listed species, sufficient to ensure the survival and recovery of the desert tortoise in the Western Mojave Recovery Unit. The decline in this region prompts concern; desert tortoise numbers are low enough in certain areas to make them almost undetectable. Full and swift implementation of the amended California Desert Conservation Area Plan may reduce the severity and duration of the decline, if it is tied to anthropogenic causes.

In summary, the actions in the West Mojave Plan were proposed with consideration of the Bureau's mandates to manage public lands and after careful evaluation of the current situation in these areas and input from the public and numerous agencies. With a few exceptions, such as the Johnson Valley-to-Parker race corridor and permitting vehicles to stop and camp off of routes, the actions that were adopted by the Bureau are highly protective of desert tortoises. Even the exceptions as noted provide greater protection to the desert tortoise than the California Desert Conservation Area Plan of 1980. In addition, as we discussed previously in this biological opinion, the best data available seem to indicate that none of these actions have severe adverse effects on the desert tortoise. However, the cause of the recent declines in the number of desert tortoises across California has not been identified. Consequently, the mechanisms needed to reverse these declines are also unknown. The potential exists that reversal of the decline of the desert tortoise may require substantial additional management; another scenario is that we may not be able to identify or manage the agent or agents responsible for the decline.

Effects on Critical Habitat

The proposed amendment of the California Desert Conservation Area Plan for the Western Mojave Recovery Unit would improve management of critical habitat of the desert tortoise above the current management situation that occurs within this region. Additionally, except for casual uses (e.g., casual mining exploration, use of open wash zones, vehicle use on existing roads, ongoing grazing, hiking, and vehicle camping along existing roads), activities and projects will receive site-specific environmental review and consultation with the Service, pursuant to section 7(a)(2) of the Act. Therefore, all activities and projects, except casual uses, may be denied, modified, or mitigated to reduce adverse effects to the primary constituent elements of critical habitat if, as proposed for some future specific activity, they would violate section 7(a)(2) of the Act. As we have noted previously in this biological opinion, section 6840 of the Bureau of Land Management Manual states that the Bureau's policy is to "ensure that (its) actions will not reduce the likelihood of survival and recovery of any listed species or destroy or adversely modify their critical habitat."

This biological opinion also addresses specific actions that were adopted as part of the West Mojave Plan to implement various aspects of the recovery plan for the desert tortoise. The

following discussion summarizes important components of the bioregional plans and their effects on critical habitat of the desert tortoise.

The Bureau's proposal to designate all lands within desert wildlife management areas as Class L should provide increased protection to critical habitat over that currently provided by Class M guidance. Not all critical habitat was included within desert wildlife management areas; however, even without the portions of critical habitat that have been omitted from desert wildlife management areas, the Bureau has included sufficient areas of critical habitat to ensure the conservation role and function of the critical habitat units in the planning area for the Western Mojave Recovery Unit.

The Bureau can authorize actions within Class L areas that could degrade or remove primary constituent elements of critical habitat. The proposal to limit the cumulative amount of ground disturbance to one percent should ensure that the vast majority of public lands within the critical habitat units is managed for the conservation of the desert tortoise.

The designation of routes within the boundaries of the critical habitat units, with an overall reduction in the amount of the road network, should reduce adverse effects to the primary constituent elements of critical habitat. The closure of 117 miles of navigable washes within desert wildlife management areas will reduce the adverse effects to a great degree.

Maintaining a corridor for competitive events along the Johnson Valley-to-Parker route is not likely to disturb, to a substantial degree, the primary constituent elements of critical habitat where the route borders the Ord-Rodman Critical Habitat Unit because the Bureau will require riders to remain on the designated route. The elimination of the Barstow to Vegas race corridor may have a slight benefit to critical habitat, in that vehicles will no longer have the potential for to stray off of the established route.

Reducing the distance that cars and trucks can drive and park from up to 300 feet from a route of travel to 50 feet within large portions of the critical habitat units in the planning area provides a greater degree of protection to the primary constituent elements of critical habitat of the desert tortoise. The additional requirement to limit camping to existing disturbed areas provides even a higher degree of protection because it restricts this activity to areas that usually lack one or more of the primary constituent elements of critical habitat of the desert tortoise.

The voluntary relinquishment of grazing leases and related authorizations will substantially reduce the effects of cattle and sheep grazing on the primary constituent elements. Cattle have been removed from several allotments and sheep have not grazed substantial areas of critical habitat since it was designated.

The acquisition of private lands within desert wildlife management areas will remove at least some sources of degradation of the primary constituent elements of critical habitat of the desert tortoise that occur on non-federal lands; this acquisition will also facilitate the Bureau's management. The addition of lands to the retention zone in the West Mojave Land Tenure

Adjustment Program will increase the area of critical habitat on which desert tortoises may be conserved.

Programs to educate visitors about how to behave responsibly while visiting areas of critical habitat will also promote conservation of the desert tortoise. A permitting and education program for use of vehicles in the Rand Mountains may be particularly beneficial, given the difficulty that the Bureau has had in enforcing compliance with the route network in this area; if vehicles remain on designated routes, the impacts to the primary constituent elements of critical habitat would be substantially reduced.

In summary, the California Desert Conservation Area Plan, as amended by the West Mojave Plan, provides guidance, including the requirement to consider the needs of listed species, sufficient to ensure the conservation role and function of critical habitat of the desert tortoise in the Western Mojave Recovery Unit. Additionally, the specific actions that were adopted by the Bureau are highly protective of critical habitat. The best data available seem to indicate that the few exceptions to this statement, such as permitting vehicles to stop and camp off of routes, are not likely to have severe adverse effects on the overall function of affected critical habitat units; in these cases, the scale of the impact is minor in comparison with the area of critical habitat. Although recent declines in the numbers of desert tortoises in several regions of the desert prompt concern, we have not been able to attribute those declines in a definitive manner to changes in the condition of desert tortoise habitat.

Any consideration of the effects of an action on a species must consider the scale of those effects; that is, how much of the species' range would be degraded or enhanced by the proposed action. The range, recovery units, and critical habitat units of the desert tortoise encompass vast areas. The scale of the California Desert Conservation Area Plan is also vast. Its goal is to provide for the use of public lands and resources in a manner that enhances, where possible, and does not diminish, on balance, the environmental, cultural, and aesthetic values of the desert and its productivity (Bureau 1999). The immensity of the range of the desert tortoise and the large amount of critical habitat assist in achieving this balance. Although the Bureau has authorized many projects under the guidance of the California Desert Conservation Area Plan, large expanses of habitat, including most critical habitat of the desert tortoise, remain undisturbed by the Bureau's management actions. In our analysis, we place particular emphasis on the Bureau's commitment to ensure that no more than one percent of land within the desert wildlife management areas under its management will be disturbed by future actions; this measure should ensure that the conservation role and function of critical habitat of the desert tortoise are maintained.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The County of San Bernardino is processing applications for several projects that would be located within habitat of the desert tortoise in the western Mojave Desert (Sansonetti 2004). These potential projects include: the placement of billboards adjacent to Interstate 15 in the Yermo-Harvard area and Interstate 40 in the Newberry Springs area; commercial uses along Interstates 15 and 40 in the Yermo and Newberry Springs areas; the expansion of St. Anthony's Monastery north of Interstate 15 in the Harvard area; and an industrial center west of Interstate 15 north of Victorville and east of the Mojave River.

The placement of billboards adjacent to the interstates is unlikely to result in the loss of desert tortoises because they are generally not abundant near freeways. We expect the amount of habitat loss to be minimal because of the nature of the projects; additionally, habitat near freeways is often severely degraded by various human activities.

The development of commercial facilities along Interstates 15 and 40 in the Yermo and Newberry Springs areas is more likely to cause loss of individuals and habitat of the desert tortoises. These facilities, however, would likely be developed adjacent to freeways and near existing commercial uses; therefore, we expect that the impacts to the desert tortoise and its habitat would be minimal and would have only minor effects on the viability of the Superior-Cronese and Ord-Rodman desert wildlife management areas.

The development of an industrial center north of Victorville may also kill individuals and destroy habitat of the desert tortoise. This area, however, is not within critical habitat of the species or a desert wildlife management area; consequently, the loss of the few desert tortoises that may reside in this area and the habitat that supports them is unlikely to appreciably reduce the ability of the species to survive and recover.

All of these projects have some potential to provide subsidies to common ravens, which, as we have mentioned previously in this biological opinion, prey on juvenile desert tortoises. This increase in subsidies may result in slightly greater numbers of common ravens.

Planners for the County of Kern reported that they did not have any projects that met our definition of cumulative effects (Oviatt 2004). The County of Inyo is not considering any proposed actions within the range of the desert tortoise (Smith pers. comm. 2004). The Bureau does not manage land in Los Angeles County that supports the desert tortoise; consequently, we consider Los Angeles County to be outside the action area of this consultation.

CONCLUSIONS

Desert Tortoise

After reviewing its current status, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the amendment of the California Desert Conservation Area Plan, as proposed by the Bureau through the West Mojave Plan, is not likely to jeopardize the continued existence of the desert tortoise.

We reached this conclusion for two reasons. First, although the number of desert tortoises has declined within the action area of this consultation, the general guidance provided by the California Desert Conservation Area Plan and the specific actions contained in the West Mojave Plan will ensure that actions the Bureau takes, funds, and authorizes are not likely to reduce appreciably, either directly or indirectly, its reproduction, numbers, or distribution in the action area; additionally, we did not detect any cumulative effects that would substantially alter the status of the desert tortoise in the action area. Second, the Bureau has proposed and, in some cases, already implemented, measures to avoid or reduce adverse effects to the desert tortoise and to further its conservation. These measures include, but are not limited to:

- The establishment of large, well-distributed desert wildlife management areas that will be administered in a manner consistent with most of the recommendations of the recovery plan for the desert tortoise and will promote the survival and recovery of the species within this portion of its range;

- The designation of all lands within desert wildlife management areas as Class L, which will provide increased protection to the desert tortoise over that currently provided by Class M;

- Substantial reductions in the amount of livestock grazing to the degree that most desert tortoises and their habitat in these planning areas will not be exposed to cattle or sheep grazing;

- Acquisition of private lands, which will result in a higher level of protection of desert tortoises under the guidance of the California Desert Conservation Area Plan;

- The addition of lands to the retention zone in the West Mojave Land Tenure Adjustment Program, which will increase the area within which desert tortoises may be conserved;

- A limit of one percent of new disturbance within desert wildlife management areas to reduce the loss of desert tortoises, which will ensure that most individuals and their habitat in areas that are essential to their conservation will not be exposed to the adverse effects of human activities;

- A reduction in the distance, in the desert wildlife management areas, from the centerline of roads that vehicles can stop and park from 300 feet to 50 feet, which will reduce the likelihood that desert tortoises will be killed;

- Reducing the places, in the desert wildlife management areas, where vehicles can camp to disturbed areas within 50 feet of the road, which will reduce the likelihood that desert tortoises will be killed;

- The withdrawal of several areas from mineral location and entry, which has the potential to reduce to a substantial degree the number of desert tortoises that may be killed during casual use and under future plans of operation; and

- Closure of routes, which will reduce the exposure of desert tortoises to human-related threats; and

Critical Habitat

After reviewing the current status of critical habitat, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the amendment of the California Desert Conservation Area Plan, as proposed by the Bureau through the West Mojave Plan, is not likely to destroy or adversely modify the critical habitat of the desert tortoise.

We reached this conclusion for two reasons. First, although we are aware of areas within the action area of this consultation where the condition of critical habitat has been degraded to some degree because one or more of the primary constituent elements have been disturbed by human activities, the general guidance provided by the California Desert Conservation Area Plan and the specific actions contained in the West Mojave Plan will ensure that the condition of critical habitat of the desert tortoise will generally improve or remain functional and continue to serve its conservation role; additionally, we did not detect any cumulative effects that would substantially alter the status of critical habitat of the desert tortoise in the action area. Second, the Bureau has proposed and, in some cases, already implemented, measures to avoid or reduce adverse effects to the critical habitat of the desert tortoise and to further the proper functioning of the primary constituent elements. These measures include, but are not limited to, the following actions and proposals:

- The establishment of large, well-distributed desert wildlife management areas encompassing most of the critical habitat in these planning areas that will be administered in a manner consistent with most of the recommendations of the recovery plan for the desert tortoise within this portion of its range;

- Substantial reductions in the amount of livestock grazing to the degree that most critical habitat in these planning areas will not be exposed to grazing activities;

- The designation of all lands within desert wildlife management areas as Class L, which will facilitate management of critical habitat of the desert tortoise to a greater degree than that currently provided by Class M;

- Acquisition of private lands, which will result in a higher level of protection for critical habitat under the guidance of the California Desert Conservation Area Plan;

- The addition of lands to the retention zone in the West Mojave Land Tenure Adjustment Program, which will increase the area of critical habitat that will be managed by the Bureau;

- A limit of one percent of new disturbance within desert wildlife management areas, which will ensure that most critical habitat in these areas will not be exposed to the adverse effects of human activities;

- Reducing the distance from the centerline of the road, in the desert wildlife management areas, that vehicles can stop and park from 300 feet to 50 feet, which will ensure that most critical habitat will not be exposed to the adverse effects of off-road vehicle use;

- Reducing the places, in the desert wildlife management areas, where vehicles can camp to disturbed areas within 50 feet of the road, which will reduce the area that may be subject to off-road vehicle use; and

- The withdrawal of several areas from mineral location and entry, which will reduce, to a substantial degree, the area of critical habitat that may be disturbed during casual use and under future plans of operation.

BIOLOGICAL OPINION FOR PARISH'S DAISY AND ITS CRITICAL HABITAT

STATUS OF THE PARISH'S DAISY AND ITS CRITICAL HABITAT

Basic Ecology of the Parish's Daisy

Parish's daisy is a small perennial herb of the aster family (Asteraceae) that reaches 4 to 12 inches in height. The simple linear leaves are covered with soft, silvery hairs, giving an overall light green appearance to the plant. Up to 10 solitary flower heads are borne on cauline stalks; ray flowers are deep rose to lavender, disk flowers are yellow, and heads have greyish green and glandular phyllaries. The flowering period is from May through June. Parish's daisy has been confused with fleabane daisy (*Erigeron utahensis*), a plant found on carbonate substrates in the mountains of the Mojave Desert and in Utah, Colorado, and Arizona (59 *Federal Register* 43652).

Pollinator species have not been identified for Parish's daisy (Service 2005b). Based on knowledge of species that pollinate other members of the aster family, bees, butterflies or long-tongued flies are likely candidates. We do not have information on the methods of seed dispersal.

Parish's daisy and the other four species listed in the final rule occur primarily on carbonate substrates. The carbonate belt, which consists primarily of limestone and marble, lies along the north slope of the San Bernardino Mountains from White Mountain east to Terrace Springs and southeast to Tip Top Mountain. Approximately 30,000 acres of carbonate substrate occur in this region. Parish's daisy has the widest geographic distribution of the listed carbonate plant

species; it ranges approximately 35 miles along the carbonate belt from Pioneertown in the east to the northern flanks of White Mountain in the west (67 *Federal Register* 78571).

Status of Parish's Daisy

Parish's daisy was listed as threatened on August 24, 1994 (59 *Federal Register* 43652). The primary threat to this species is loss and degradation of habitat resulting from limestone mining. Secondary threats include roads, off-highway vehicle activity, and grazing.

Eliason (2003b) notes that Parish's daisy is found on approximately 1,073 acres. Approximately 655 acres (61 percent of the known range) occur on Federal lands on which mining claims have been filed; mining claims have not been filed on 99 acres (8 percent) of Federal land where the species occurs. Approximately 270 acres (25 percent) occupied by this species are located on non-federal lands (Forest Service and Bureau 2004). These calculations are based on the amount of occupied habitat within the area covered by the carbonate habitat management strategy; the area occupied by the disjunct occurrence of Parish's daisy near Pioneertown is not included in this acreage figures.

Sanders describes Parish's daisy as "clearly declining" as a result of limestone mining (Olson 2003). However, it is still "among the more common of the carbonate endemics" (Olson 2003).

At the time of listing, the Service reported that Parish's daisy was known from approximately 25 occurrences (Olson 2003); in the draft recovery plan, the Service cited 50 occurrences of the species (Service 1997 in Olson 2003). However, Sanders notes that "many of these probably represent reports of different parts of single populations" (Olson 2003). Most populations are on lands within the San Bernardino National Forest at the east end of the San Bernardino Mountains. A few occurrences are located on Bureau lands in this region; two occurrences are located in the Little San Bernardino Mountains (Olson 2003).

Recovery Plan

The Service (1997) prepared a draft recovery plan for the five listed carbonate endemic plants; we have not prepared a final recovery plan for these species. The Bureau, Forest Service, Service, California Native Plant Society, and several mining interests have prepared a management plan for four of the five listed plant species that occur in carbonate habitat in the San Bernardino Mountains (Olson 2003). This carbonate habitat management strategy will functionally serve as a recovery plan for these species.

The carbonate habitat management strategy was developed by the Forest Service, Bureau, Service, mining companies, claim holders, conservation groups, and landowners to resolve conflicts between mining of carbonate materials and the listed plants that occur on these substrates. It is a voluntary regional strategy to balance mining and recovery of these species. The participants in the planning process intend the carbonate habitat management strategy to be operational for 50 years or more; the reserve system for the carbonate plants will be in place in perpetuity. Land in the reserve system will be acquired with public funds, donations, or

redemption of conservation credits; other lands may be exchanged to facilitate both mining and conservation. The carbonate habitat management strategy should result in the conservation of approximately 75 percent of the occupied habitat of Parish's daisy and approximately 50 to 100 percent of its critical habitat (Service 2005b).

Status of Critical Habitat of the Parish's Daisy

Critical habitat for Parish's daisy was designated on December 24, 2002 (67 *Federal Register* 78570). Unless otherwise noted, all of the information in this section is from the final rule. In this final rule, the Service designated critical habitat for five species of carbonate endemic plants in three separate recovery units. Only one unit, the Northeastern Slope Unit, supports the Parish's daisy and Cushenbury milk-vetch; consequently, we will not discuss the other units in this biological opinion.

The Northeastern Slope Unit includes 115 separate polygons around occurrences of the carbonate plants; it extends from White Mountain at the western edge to Rattlesnake Canyon at the eastern edge, a distance of approximately 25 miles. This unit covers 11,280 acres.

Within the Northeastern Slope Unit, critical habitat for Parish's daisy covers 2,231 acres managed by the Forest Service and 940 acres of Bureau lands; 270 acres are owned by non-federal entities. Approximately 2,771 acres of the lands managed by Federal agencies have been claimed under the provisions of the General Mining Law of 1872 (Forest Service and Bureau 2004).

The final rule for designation of critical habitat of the carbonate plants states that every occurrence is important to maintain the natural population dynamics of local extirpation and colonization events that are necessary for the conservation of the species, as a seed source to colonize unoccupied sites and maintain an equilibrium between colonization and extirpation events, and, potentially, to provide important genetic material through cross pollination and seed dispersal, which may help maintain genetic diversity and reduce the likelihood of extirpation. Habitat components that are essential for each of the five carbonate plants are primarily found in, but not limited to, pinyon woodland, pinyon-juniper woodland and forests, Joshua tree woodland, white fir forests, subalpine forest, canyon live oak woodlands and forests, and blackbush scrub vegetation communities in the San Bernardino Mountains. These habitat components likely provide for: individual and population growth, including sites for germination, pollination, reproduction, pollen and seed dispersal, and seed dormancy; areas that allow for and maintain gene flow between localized occurrences through pollinator activity and seed dispersal mechanisms; areas that provide basic requirements for growth such as water, light, minerals; and lands that support pollinators and seed dispersal vectors.

The Service identified numerous factors, based on research conducted by several workers, as important to the conservation of the five carbonate plants or narrow endemic plants in general: the conservation and management of existing populations; the conservation and management of suitable habitat that is not known to be currently occupied to maintain natural equilibrium between local extirpation and colonization; the protection and maintenance of upslope or

upstream geologic features that provide the necessary materials to replace the soils continually lost to natural processes; conservation and adequate connectivity of undisturbed areas between localized occurrences to allow and maintain gene flow among aggregate occurrences through pollen and seed dispersal vectors; the conservation and maintenance of sites that may allow for pollen and seed dispersal; the conservation of suitable micro-habitat that could be colonized to allow localized occurrences to expand and contract, or maintain normal population dynamics; and the maintenance of normal ecological functions within all localized occurrences. The final rule also notes that the small fragmented range of the five carbonate plants and limiting ecological factors that reduce the chances of their survival make these species particularly vulnerable to natural and human disturbance (e.g., non-native species, wildfire, livestock grazing, forest product harvesting, and mining). (Please see the final rule for citations of the research upon which we based our identification of these factors.)

We identified the specific primary constituent elements for the listed carbonate species to include the physical and biological features that would allow for: space for individual and population growth; food, water, air, light, minerals, or other nutritional or physiological requirements; cover; sites for pollination, reproduction, germination, or seed dispersal and dormancy; and habitats that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species. The final rule notes that all areas designated as critical habitat for the carbonate plants are within their respective historical ranges and contain one or more of the primary constituent elements essential for the conservation of each species; note that each species has specifically defined primary constituent elements. The specific primary constituent elements of critical habitat of Parish's daisy consist of, but are not limited to: soils derived primarily from upstream or upslope limestone, dolomite, or quartz monzonite parent materials that occur on dry, rocky hillsides, shallow drainages, or outwash plains at elevations between 3,842 and 6,400 feet; soils with intact, natural surfaces that have not been substantially altered by land use activities (e.g., graded, excavated, re-contoured, or otherwise altered by ground-disturbing equipment); and associated plant communities that have areas with an open canopy cover.

Most of the land bearing carbonate substrates has either been claimed under the authorities of the General Mining Law of 1872 or patented. Three major limestone mines are currently operating on the north slope of the San Bernardino Mountains. A fourth, known as the Partin Mine, is no longer operating. The following paragraphs provide a general description of mining history within habitat of the carbonate plants; we do not have specific information regarding the locations of these affected areas in relation to the polygons designated as critical habitat.

Omya, Inc., operates the White Knob Quarry, which is located on patented lands within the administrative boundary of the San Bernardino National Forest. The average annual production for this operation is 500,000 tons. Mining would be conducted in phases for up to 30 years. As of 2003, disturbance from mining covered approximately 145 acres. Omya plans to apply to the County of San Bernardino for an amendment to its existing plan of operations to allow mining on 10 acres of unoccupied habitat. As part of this amendment, approximately 10 acres of habitat occupied by the carbonate species that are currently permitted for mining will not be mined (Brown pers. comm. 2003). Omya also leases claims covering approximately 360 acres on the

White Knob-White Ridge deposits. Several Silver Creek Placer claims are also leased by Omya. Some access roads to this mine cross lands managed by the Bureau (Foreman pers. comm. 2003). Specialty Minerals operates the Furnace Canyon (16 acres), Marble Canyon (120 acres), and the C-21 (Arctic Canyon and Cushenbury - 80 acres) quarries. The Nett Hill, Gordon, and Bonnicamp quarries are now inactive (Seal pers. comm. 2003). The Furnace Canyon Quarry and the Marble Canyon Quarry occur on both Forest Service and patented land. The average annual production for Specialty Minerals' operation is 800,000 tons. Some access roads cross lands managed by the Bureau (Foreman pers. comm. 2003).

The Mitsubishi Quarry occupies approximately 173 acres; an additional 18 acres are used to stock pile materials. This mine has an annual production of about 2 million tons of limestone (Shumway pers. comm. 2003). The mine is located on Forest Service and private lands.

An unknown number of occurrences of the listed carbonate plant species have been directly affected by these mining activities. Mining at many of the sites on the north slope of the San Bernardino Mountains was initiated prior to the listing of the carbonate species; the oldest mines were developed without any botanical surveys.

ENVIRONMENTAL BASELINE FOR PARISH'S DAISY AND ITS CRITICAL HABITAT

Previous Consultations

To date, we have formally consulted with the Bureau on two occasions regarding Parish's daisy. On September 30, 1999, we issued a biological opinion on the effects on the Parish's daisy of a proposed limestone quarry on Bureau land near Rattlesnake Canyon (1-8-99-F-77, Service 1999a). The plan of operations called for approximately 5 acres of surface disturbance, with an anticipated production of 86,000 tons per year. To date, this quarry has not been developed (Chavez 2003).

In 1993, the Service issued a biological opinion regarding the effects of cattle grazing on the desert tortoise (1-6-92-F-19; Service 1993b); the Rattlesnake Canyon Allotment, which supports Parish's daisy, was one of the allotments considered in that document. Because the carbonate plants were not federally listed at the time of the grazing consultation, the effects of grazing on those species were not addressed.

The Bureau, Forest Service, and Service recently completed formal consultation, pursuant to section 7(a)(2) of the Act, regarding the effects of the carbonate habitat management strategy on the five listed species, including Parish's daisy (Olsen 2003). The Service issued a biological opinion regarding the carbonate habitat management strategy to the agencies on May 2, 2005 (Service 2005b). The Status of the Parish's Daisy and Its Critical Habitat - Recovery Plan section of this biological opinion contains more information on the carbonate habitat management strategy.

Status of Parish's Daisy in the Action Area

Approximately 237 acres within the Carbonate Endemic Plants Research Natural Area support Parish's daisy and are managed by the Bureau (Forest Service and Bureau 2004). This area comprises approximately 23 percent of the 1,024 acres of habitat occupied by this species (Forest Service and Bureau 2004). Most of the occurrences within the action area are at lower elevations than those on Forest Service lands. Consequently, the action area supports a substantial portion of the distribution of Parish's daisy; additionally, the action area supports plants at the lower elevation range of the species that may not be well represented in occurrences on lands managed by the Forest Service. Maintaining plants in a diversity of habitats, such as may occur over a range of elevations, likely captures a greater degree of genetic variation, which is important in conserving a species on the long term.

Only 2 percent of the disturbed area within carbonate habitat (32 of the 1,590 acres) is on lands managed by the Bureau (San Bernardino National Forest GIS database, Eliason pers. comm. 2003a). Currently, few land uses occur in areas occupied by Parish's daisy.

Status of Critical Habitat of Parish's Daisy in the Action Area

Approximately 940 acres (21 percent) of critical habitat of Parish's daisy occur on public lands managed by the Bureau (Forest Service and Bureau 2004). This acreage indicates the size of the polygons of critical habitat, but not the amount of area that contains the primary constituent elements (67 *Federal Register* 78570). Approximately 746 acres of the critical habitat on public lands have been claimed under the provisions of the mining laws (Forest Service and Bureau 2004). We do not have any further information on the condition of critical habitat in the action area; to the best of our knowledge, most of the area of critical habitat has not been disturbed since its designation.

EFFECTS OF THE ACTION ON PARISH'S DAISY AND ITS CRITICAL HABITAT

Methodology

We used the same methodology to analyze the effects of the proposed action on the Parish's daisy, Cushenbury milk-vetch, and Lane Mountain milk-vetch that we used for the desert tortoise. We will not repeat it here. Additionally, we will not repeat the following sections on the general effects of human activities on listed plant species and their critical habitats for each plant species we discuss.

General Effects of Human Activities on the Listed Plant Species

In this section, we attempted to briefly summarize how various anthropogenic activities could affect the Lane Mountain milk-vetch, Parish's daisy, and Cushenbury milk-vetch. Note that this analysis is general in nature and, unless otherwise noted, is not intended to apply to any specific action that is or may be authorized by the Bureau.

The use and maintenance of roads can affect listed plant species in several ways. Plants that are on or immediately adjacent to roads can be lost or disturbed when vehicles stray from the road during use or maintenance activities. Dust and mud generated by motorized vehicles, whether they are maintaining or using the road, can cover plants and interfere with physiological functions ultimately affecting plant vigor, reproduction, and survival; this impact would be greatest near the road and in areas traversed by numerous roads. Invasive, nonnative plants can be transported into areas along roads. Modifying washes, such as through the use of culverts where roads cross drainages, may alter the manner in which water flows across habitat and thereby change the distribution of individuals of the listed plant species.

Vehicles traveling off of established roads can crush small shrubs or sub-shrubs, such as Parish's daisy, Cushenbury milk-vetch, and Lane Mountain milk-vetch. Vehicles traveling in this manner can also spread seeds of non-native species over great distances.

Hiking and equestrian use can affect Lane Mountain milk-vetch, Parish's daisy, or Cushenbury milk-vetch. The terrain in which these species live is generally accessible on foot, although some portions of the habitat of Parish's daisy and Cushenbury milk-vetch may be too steep for hiking. The primary effect of walking through habitat of these species would be trampling of plants. Equestrian use may also result in trampling. Because these plants occur in habitat that is generally open, people on foot are likely to walk around most individuals. In all cases, seedlings and smaller plants will be more susceptible to trampling. Individuals of Lane Mountain milk-vetch are less likely to be trampled because of their occurrence within shrubs. Hikers and equestrians can spread seeds of non-native species.

Projects that result in ground disturbance can affect Lane Mountain milk-vetch, Parish's daisy, and Cushenbury milk-vetch. These impacts include direct removal of plants and seeds, trampling of plants, changes in hydrology, burial of plants and seeds under overburden and spoils, and interference with pollination and seed dispersal.

Various human activities can spread non-native species; these species can compete with the listed species for nutrients, germination sites, and scarce moisture, and alter the ability of the area to carry wild fires. The species being considered in this biological opinion are not adapted to fire; consequently, fires could result in a substantial loss of individual plants and severely alter the plant community structure within their habitats.

Fragmentation of habitat could result in a decline in the health of the occurrences of the species under consideration in this biological opinion. If the occurrences or portions of the occurrences are separated from one another by habitat that pollinators cannot cross, pollinators may not have adequate access to ensure propagation. At this time, we do not have extensive information on the pollination ecology of these species. Fragmented habitat is also more susceptible to indirect effects, such as dust from roads and other disturbed areas and invasion by non-native species.

The use of herbicides could result in direct mortality of individuals of Lane Mountain milk-vetch, Parish's daisy and Cushenbury milk-vetch. Other pesticides may reduce or eliminate the

populations of pollinators. Both the active ingredient and surfactants may be toxic to individuals of the listed species and pollinators.

General Effects of Human Activities on Critical Habitat of the Listed Plant Species

The final rule for designation of critical habitat for the carbonate plant species describes the specific primary constituent elements of their critical habitat (67 *Federal Register* 78571). We have described the primary constituent elements for both species in their respective "Status of Critical Habitat" sections of this biological opinion. Except for differences in source of the substrates for these two species, the primary constituent elements are similar. Parish's daisy and Cushenbury milk-vetch occur on steeper slopes than those occupied by Lane Mountain milk-vetch; they also occur at higher elevations. The substrate on which Lane Mountain milk-vetch occurs is derived from granitic base materials; the species grows only where a thin layer of this specific substrate is present. In this regard, the substrate requirements of the carbonate species and Lane Mountain milk-vetch are similar. Although Lane Mountain milk-vetch requires a host shrub in which to grow, the host shrubs generally occur in a situation with an open canopy, similar the third primary constituent element of the carbonate species. Consequently, the effects of any given activity would likely be fairly similar to all three species.

The implementation of the guidelines and elements of the West Mojave Plan can remove, disturb, or fragment habitat of the listed plant species, including the primary constituent elements of critical habitat. We conducted the following analysis by generally using the primary constituent elements as the basis for our discussion.

Note that, regardless of whether a specific area is within the boundaries of critical habitat or critical habitat has not been designated for a species (e.g., Lane Mountain milk-vetch), various activities generally affect the physical and biological attributes of habitat that supports the listed plant species in the same manner. In the analysis that follows and throughout the biological opinion, we discuss how the primary constituent elements of critical habitat of Parish's daisy and Cushenbury milk-vetch may be affected by various activities. The same principles apply to habitat of Lane Mountain milk-vetch although we did not designate it as critical. Therefore, for example, ground disturbance has the same general effects on habitat of the plant species, regardless of whether that habitat has been designated as critical. For the purposes of this biological opinion, we do not consider the effects on habitat outside of critical habitat in our conclusions regarding any effects to designated critical habitat.

Soils derived primarily from upstream or upslope limestone, dolomite, or quartz monzonite parent materials that occur on dry, rocky hillsides, shallow drainages, or outwash plains at elevations between 3,842 and 6,400 feet (Parish's daisy); soils derived primarily from the upper and middle members of the Bird Spring Formation and Undivided Cambrian parent materials that occur on dry flats and slopes or along rocky washes with limestone outwash/deposits at elevations between 3,864 and 6,604 feet (Cushenbury milk-vetch). Mining can disturb the primary constituent elements of critical habitat of Parish's daisy and Cushenbury milk-vetch by removing the soils that constitute this primary constituent element or by covering them with overburden materials; in either case, these soils would no longer be available to the plants.

Removing or covering the thin layer of granitic substrates upon which Lane Mountain milk-vetch grows would have the same effect on this species.

Soils with intact, natural surfaces that have not been substantially altered by land use activities (Parish's daisy and Cushenbury milk-vetch). The use and maintenance of roads can affect the primary constituent elements of listed plant species. Dust and mud generated by motorized vehicles, whether they are maintaining or using the road, can cover the substrates upon which these plant species, including Lane Mountain milk-vetch, depend; this impact would be greatest near the road and in areas traversed by numerous roads. The potential effect of dust and mud from adjacent roads is likely minor when it is considered in light of the relatively small areas of the habitats of these species that are adjacent to roads.

We are unaware of any hiking trails that traverse habitat of Parish's daisy, Cushenbury milk-vetch, or Lane Mountain milk-vetch. The terrain in which these species live is generally accessible on foot, although some portions of the habitat of Parish's daisy and Cushenbury milk-vetch may be too steep for hiking. Walking through habitat of these species could, to some degree, alter the intact, natural surface of the substrate; walking could affect substrate where Lane Mountain milk-vetch occurs in the same manner.

Associated plant communities that have areas with an open canopy cover (Parish's daisy); associated plant communities that have areas with an open canopy cover and little accumulation of organic material on the surface of the soil (Cushenbury milk-vetch). Human activity can cause or exacerbate the spread of invasive, nonnative plants into habitat of listed species. If nonnative these plants become abundant in an area, they could interfere with this primary constituent element by filling intershrub spaces and increasing the amount of leaf litter that contributes to the accumulation of organic material on the surface of the soil. Their presence in these intershrub spaces may lead to competition for light, nutrients, and water. Perhaps more importantly, nonnative species can alter the ability of the area to carry wild fires. Parish's daisy, Cushenbury milk-vetch, and Lane Mountain milk-vetch are not adapted to fire; consequently, fires could result in a substantial alteration of the plant community structure in areas occupied by these species.

Effects of the West Mojave Plan on Parish's Daisy and its Critical Habitat

The area where Parish's daisy may be affected by the Bureau's proposals includes public lands supporting the species or its critical habitat within the Carbonate Endemic Plants Research Natural Area on the northern slope of the San Bernardino Mountains in the area to the east of Highway 18 and north of the boundary of the San Bernardino National Forest. Figure 2-11 on the final environmental impact report and statement depicts the Carbonate Endemic Plants Research Natural Area. This area is appropriate to consider in this biological opinion because it includes all areas where Parish's daisy occurs within the California Desert Conservation Area; additionally, the Bureau designated the Carbonate Endemic Plants Research Natural Area to include the areas where this species may be found and affected by its activities.

Amendment 1, New Areas of Critical Environmental Concern

The Bureau will designate a 5,169-acre conservation area for the carbonate plant species.

Effects on Parish's Daisy

The management direction provided by the designation of the conservation area will generally benefit Parish's daisy for numerous reasons. The Bureau's application of a mitigation fee to new ground-disturbing activities, acquisition of land within the conservation area, designation of routes, and monitoring of biological resources will benefit Parish's daisy. These actions will likely reduce the amount of disturbance, provide at least a minor source of income for conservation projects, reduce the likelihood that off-road vehicle use will damage plants, and enhance the Bureau's management capabilities by consolidating land ownership.

The Bureau's proposal to adopt a standard of no surface occupancy to prevent undue and unnecessary degradation of lands, under the surface mining regulations, to protect Parish's daisy is another important element of the conservation strategy. As a result of the adoption of this standard, surface disturbance would be prohibited on the 171 acres that support Parish's daisy and that have already been claimed under the provisions of the General Mining Law of 1872. Additionally, the same protections would apply to approximately 66 acres of public lands that support individuals of this species and have not been claimed under the General Mining Law of 1872. (The areas of claimed and unclaimed land are from Forest Service and Bureau 2004.) Private lands that may be acquired will not be opened to mineral entry. Therefore, these actions will prevent loss of individuals of Parish's daisy as a result of mining activities.

The prohibition against harvesting native plants within conservation areas will benefit Parish's daisy because the inadvertent removal of individuals of this species is far less likely to occur if collection of all species is prohibited. Additionally, prohibiting the collection of other plants may have minor beneficial effects on the community of pollinators by removing this impact to their habitat.

Activities such as hiking, bird watching, and photography would likely have minimal impact on Parish's daisy because the level of use would probably be low; additionally, because these plants occur in habitat that is generally open, people on foot are likely to step around most individuals. Equestrian uses may result in some trampling.

Commercial activities, such as commercial filming, could result in the trampling of Parish's daisy, if it occurs in occupied habitat. To the best of our knowledge, little, if any filming occurs within this conservation area. Consequently, such activity is unlikely to cause substantial impacts to Parish's daisy.

The Bureau will attempt to place more law enforcement rangers and maintenance workers in the field and to focus their efforts on the conservation of biological resources. As we noted in our discussion on the desert tortoise, the Bureau's presence in the field is essential. Without

adequate staffing, numerous impacts can occur and cause serious detrimental effects before they are even detected.

The one percent threshold for new ground disturbance will apply in this conservation area. Approximately 238 acres of occupied habitat for Parish's daisy occur on public lands within the habitat conservation area. Because of the one percent threshold, up to approximately 52 acres of this occupied habitat (i.e., one percent of 5,169 acres) may be disturbed. In such a situation, Parish's daisy occurring on the remaining acres 186 acres of occupied habitat within this area will not be disturbed by project-level activities. We expect that the likelihood is extremely low that of all of the 52 acres of disturbance would occur within occupied habitat of Parish's daisy. Consequently, more than 186 acres of habitat occupied by Parish's daisy is likely to be conserved. Additionally, this area currently receives little use and few proposals for development; we expect this situation will continue. For these reasons, we conclude that the general management direction provided by the West Mojave Plan will not appreciably reduce the reproduction, numbers, or distribution of Parish's daisy.

With the exception of casual use, such as hiking, bird watching, equestrian use, and photography, all of the activities described in this section would be subject to future consultations, pursuant to section 7(a)(2) of the Act, as appropriate. We will be better able to determine the effects of specific actions at the time they are proposed.

Effects on Critical Habitat of Parish's Daisy

The management direction provided by the designation of the conservation area will generally reduce the level of threats to the primary constituent elements of critical habitat of Parish's daisy for numerous reasons. For example, the application of a mitigation fee to new ground-disturbing activities will provide at least a minor source of income for projects designed to manage critical habitat. Also, implementation of a once percent limit on new surface disturbance will likely reduce the threat of new disturbance to some degree. Land acquisition in the conservation area will enhance the Bureau's capabilities of managing critical habitat by consolidating land ownership.

The Bureau's proposal to adopt a standard of no surface occupancy to prevent undue and unnecessary degradation of lands, under the surface mining regulations, to protect Parish's daisy is another important element of the conservation strategy. As a result of the adoption of this standard, surface disturbance would be prohibited on 746 acres of critical habitat on public lands that have already been claimed under the provisions of the General Mining Law of 1872. Additionally, the same protections would apply to approximately 194 acres of critical habitat on public lands that have not been claimed under the General Mining Law of 1872. (The areas of claimed and unclaimed land are from Forest Service and Bureau 2004.) Private lands that may be acquired will not be opened to mineral entry. Therefore, these actions will prevent degradation of the primary constituent elements of critical habitat of Parish's daisy as a result of mining activities.

Activities such as hiking, bird watching, equestrian use, and photography would likely have minimal impact on the primary constituent elements of the critical habitat of Parish's daisy for several reasons. First, these activities will not result in the removal of the substrates that are necessary for growth of Parish's daisy. With regard to the second primary constituent element, because the level of use would probably be low, little surface area will likely be disturbed by these activities. Finally, these recreational activities are unlikely to alter, in any substantial manner, the open character of the habitat in which Parish's daisy occurs; consequently, effects to the third primary constituent element of critical habitat are likely to be minor, if any occur at all.

Commercial activities, such as commercial filming, could disrupt the surface of substrates and thereby adversely affect this primary constituent element; the intensity of the impact would depend on the type of the activity. To the best of our knowledge, little, if any filming occurs within this conservation area. Consequently, such activity is unlikely to cause substantial impacts to Parish's daisy.

The one percent threshold for new ground disturbance will apply in this conservation area. Approximately 729 acres of critical habitat of Parish's daisy occur on public lands within the conservation area (Bureau 2005b). Because of the one percent threshold, up to approximately 52 acres of this occupied habitat may be disturbed. Consequently, the remaining acres 677 acres of critical habitat of Parish's daisy within this area will not be disturbed by project-level activities. We expect that the likelihood is extremely low that of all of the 52 acres of disturbance would occur within critical habitat of Parish's daisy. Consequently, more than 677 acres of critical habitat is likely to be conserved. Additionally, this area currently receives little use and few proposals for development; we expect this situation will continue. Note that not all the areas within the boundaries of the critical habitat subunits support the primary constituent elements of critical habitat; consequently, the potential also exists that some disturbances within the boundaries of critical habitat may not affect its conservation role and function.

Approximately 211 acres of critical habitat of Parish's daisy occur outside of the boundaries of the conservation area. Critical habitat outside of the conservation area may be at greater risk of disturbance because it will not be subject to the one percent limit on new disturbance or managed at the same level of protection. The maximum amount of critical habitat of Parish's daisy on Bureau lands that may be lost under the provisions of the West Mojave Plan would be 263 acres (i.e., 52 acres within the conservation area, plus 211 acres of critical habitat outside of the boundaries of the conservation area).

Under the worst case scenario described in the Carbonate Habitat Management Strategy for Parish's daisy, approximately 2,357 acres of the total of 4,420 acres of critical habitat would be set aside; this figure includes the area of critical habitat on both Forest Service and Bureau lands. Consequently, the upper limit of disturbance of critical habitat of Parish's daisy that could occur under the direction of the West Mojave Plan would constitute approximately 8.9 percent of the total area of critical habitat that is the minimum to be set aside under the provisions of the Carbonate Habitat Management Strategy. We note that this analysis is doubly conservative because we used the upper limits of disturbance on public lands and the lowest estimate of critical habitat set aside on a range wide basis to arrive at this percentage. Consequently, under

the worst case scenario, approximately 91 percent of designated critical habitat would not be subject to disturbance. For this reason, we conclude that the general management direction provided by the West Mojave Plan will not compromise the conservation role and function of critical habitat of Parish's daisy.

With the exception of casual use, such as hiking, bird watching, equestrian use, and photography, all of the activities described in this section would be subject to future consultations, pursuant to section 7(a)(2) of the Act, as appropriate. We will be better able to determine the effects of specific actions on the primary constituent elements of critical habitat at the time they are proposed.

Amendment 3, Changes in Multiple-use Class Designations

The Bureau proposes to change the multiple-use class designations from Class M to Class L on 4,393 acres on the north slope of the San Bernardino Mountains within the Carbonate Endemic Plants Area of Critical Environmental Concern.

Effects on Parish's Daisy

This action will benefit Parish's daisy because designation of the areas as Class L limits, to a certain degree, the amount of development activity that may occur. We recognize that all development is not prohibited on Class L lands. Our previous biological opinion on the California Desert Conservation Area Plan evaluated the program direction provided by the Bureau's land use classification; we will not repeat that analysis herein. As we noted previously in this biological opinion, specific future actions that the Bureau proposes under the Class L designation will be subject to the consultation requirements of section 7(a)(2) of the Act, as appropriate.

Effects on Critical Habitat of Parish's Daisy

The change proposed by the Bureau will promote the conservation role and function of critical habitat by including these portions of critical habitat in areas that will be managed under the guidelines of Class L, because, as we have stated previously in this biological opinion, these guidelines provide a greater emphasis on the conservation of natural resources than other land use classes (with the exception of Class C) and the one percent limit on surface disturbance associated with desert wildlife management areas and habitat conservation areas will apply. Specific future actions the Bureau proposes under the Class L designation that may affect critical habitat of Parish's daisy will be subject to the consultation requirements of section 7(a)(2) of the Act, as appropriate.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section

because they require separate consultation pursuant to section 7 of the Act. The County of San Bernardino did not identify any actions that are reasonably certain to occur within the action area (Sansonetti 2005).

CONCLUSIONS

Parish's Daisy

After reviewing its current status, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the amendment of the California Desert Conservation Area Plan, as proposed by the Bureau through the West Mojave Plan, is not likely to jeopardize the continued existence of Parish's daisy.

We reached this conclusion for two reasons. First, the general guidance provided by the California Desert Conservation Area Plan and the specific actions contained in the West Mojave Plan will ensure that actions the Bureau takes, funds, and authorizes are not likely to reduce appreciably, either directly or indirectly, the reproduction, numbers, or distribution of Parish's daisy; additionally, we did not detect any cumulative effects that would substantially alter the status of Parish's daisy in the action area. Second, the Bureau has proposed and, in some cases, already implemented, measures to avoid or reduce adverse effects to the Parish's daisy and to further its conservation. These measures include, but are not limited to:

- The establishment of an area of critical environmental concern that will be managed in a manner that will promote the survival and recovery of the species within this portion of its range;
- The designation of all lands within the area of critical environmental concern as Class L, which will provide increased protection to Parish's daisy over that currently provided by Class M;
- Removal of livestock grazing from habitat occupied by Parish's daisy;
- Acquisition of private lands, which will result in a higher level of protection of Parish's daisy under the guidance of the California Desert Conservation Area Plan;
- A limit of one percent of new disturbance within the area of critical environmental concern to reduce the loss of Parish's daisy, which will ensure that most individuals will not be exposed to the adverse effects of human activities; and
- The adoption of a no surface occupancy standard within the area of critical environmental concern, which will eliminate the loss of Parish's daisy as a result of mining activities.
- Designation of all routes of travel within the area of critical environmental concern as limited use.

Critical Habitat

After reviewing the current status of critical habitat, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the amendment of the California Desert Conservation Area Plan, as proposed by the Bureau through the West Mojave Plan, is not likely to destroy or adversely modify the critical habitat of Parish's daisy.

We reached this conclusion for two reasons. First, although the condition of critical habitat within some portions of the action area of this consultation has been degraded to a degree because one or more of the primary constituent elements have been disturbed by past human activities, the general guidance provided by the California Desert Conservation Area Plan and the specific actions contained in the West Mojave Plan are compatible with the function of critical habitat of Parish's daisy; additionally, we did not detect any cumulative effects that would alter the status of critical habitat of Parish's daisy in the action area. Second, the Bureau has proposed and, in some cases, already implemented, measures to avoid or reduce adverse effects to the critical habitat of Parish's daisy and to further the proper functioning of the primary constituent elements. These measures include, but are not limited to, the following actions and proposals:

- The establishment of an area of critical environmental concern encompassing most of the critical habitat of Parish's daisy and its management in a manner that will promote the survival and recovery of the species within this portion of its range;

- Removal of livestock grazing from critical habitat;

- The designation of all lands within the area of critical environmental concern as Class L, which will facilitate management of critical habitat of Parish's daisy to a greater degree than that currently provided by Class M;

- Acquisition of private lands, which will result in a higher level of protection for critical habitat under the guidance of the California Desert Conservation Area Plan;

- A limit of one percent of new disturbance within the area of critical environmental concern, which will ensure that most critical habitat in these areas will not be exposed to the adverse effects of human activities; and

- The adoption of a no surface occupancy standard within the area of critical environmental concern, which will eliminate disturbance to or loss of the primary constituent elements of critical habitat of Cushenbury milk-vetch as a result of mining activities.

- Designation of all routes of travel within the area of critical environmental concern as limited use.

BIOLOGICAL OPINION FOR CUSHENBURY MILK-VETCH
AND ITS CRITICAL HABITAT

STATUS OF THE CUSHENBURY MILK-VETCH AND ITS CRITICAL HABITAT

Basic Ecology of Cushenbury Milk-vetch

Cushenbury milk-vetch is a small, silvery-white, annual to sometimes perennial herb in the pea family (Fabaceae). The slender stems are decumbent, grow to12 inches in length, and support leaves consisting of 5 to 9 small leaflets. The pink-purple flowers, which bloom from March to May, occur in 5- to 14-flowered terminal racemes, have banner petals reaching up to 0.5 inch long, and develop 8- to 11-seeded fruits (pods). The pods are up to 0.14 inch wide, crescent shaped with three sides and two chambers, which become papery in maturity. Unless otherwise noted, the information in this section is from the final rule for designation of critical habitat for the carbonate plants (67 *Federal Register* 78570). (Please see the final rule for addition citations regarding information on Cushenbury milk-vetch.)

Given the flower shape and color, small bees are the most likely pollinators; we do not know if this species is self-compatible (Olson 2003). We also do not have information on seed bank dynamics (Olson 2003).

Cushenbury milk-vetch is not as widely distributed as Parish's daisy. Cushenbury milk-vetch occurs along the 11-mile long region from Dry Canyon east to Terrace Springs; its range then stretches southeast 6 miles to approximately 1 mile east of Granite Spring. It is currently found on approximately 1,201 acres (Forest Service and Bureau 2004).

Status of Cushenbury Milk-vetch

Cushenbury milk-vetch was listed as endangered on August 24, 1994 (59 *Federal Register* 43652). The primary threat to this species is loss and degradation of habitat resulting from limestone mining. Approximately 1,023 acres (85 percent of the known range) occurs on Federal lands on which mining claims have been filed; mining claims have not been filed on 92 acres (8 percent) of Federal land where the species occurs. Approximately 84 acres (7 percent) of land occupied by this species are privately owned (Forest Service and Bureau 2004). Secondary threats include roads, off-highway vehicle activity, and grazing.

At the time of listing, the Service estimated that fewer than 20 occurrences of Cushenbury milk-vetch were known (59 *Federal Register* 43652). As we noted for Parish's daisy, determining the number of occurrences is a somewhat subjective exercise. Because the species is an annual, distribution and abundance will vary annually depending on rainfall (Olsen 2003).

Recovery Plan

Please refer to the Status of the Parish's Daisy and Its Critical Habitat - Recovery Plan section of this biological opinion for information on the recovery planning and the carbonate habitat management strategy.

Status of Critical Habitat of Cushenbury Milk-vetch

Critical habitat for Cushenbury milk-vetch was designated on December 24, 2002 (67 *Federal Register* 78570). Unless otherwise noted, all of the information in this section is from the final rule.

Cushenbury milk-vetch occurs in the same critical habitat unit as Parish's daisy. Consequently, all of the information for the Northeastern Slope Unit discussed for Parish's daisy is relevant to Cushenbury milk-vetch.

We also used the same processes and criteria to determine critical habitat for Cushenbury milk-vetch as we did for Parish's daisy. Only the primary constituent elements are different. The primary constituent elements for Cushenbury milk-vetch consist of, but are not limited to: soils derived primarily from the upper and middle members of the Bird Spring Formation and Undivided Cambrian parent materials that occur on dry flats and slopes or along rocky washes with limestone outwash/ deposits at elevations between 3,864 and 6,604 feet; soils with intact, natural surfaces that have not been substantially altered by land use activities (e.g., graded, excavated, re-contoured, or otherwise altered by ground-disturbing equipment); and associated plant communities that have areas with an open canopy cover and little accumulation of organic material (e.g., leaf litter) on the surface of the soil.

As we noted in the Status of Critical Habitat of Parish's Daisy section of this biological opinion, we do not know the amount of habitat of the carbonate plant species that existing mining removed. The information discussed at the end of the Status of Critical Habitat of Parish's Daisy section is also relevant for Cushenbury milk-vetch.

ENVIRONMENTAL BASELINE CUSHENBURY MILK-VETCH AND ITS CRITICAL HABITAT

Previous Consultations

To date, we have formally consulted with the Bureau on one occasion regarding Cushenbury milk-vetch. The Bureau, Forest Service, and Service recently completed formal consultation, pursuant to section 7(a)(2) of the Act, regarding the effects of the carbonate habitat management strategy on the five listed species, including Cushenbury milk-vetch (Olsen 2003). The Service issued a biological opinion regarding the carbonate habitat management strategy to the agencies on May 2, 2005 (Service 2005b). We provide more information on the carbonate habitat management strategy in the Status of the Parish's Daisy and Its Critical Habitat - Recovery Plan

section of this biological opinion contains more information on the carbonate habitat management strategy.

Status of Cushenbury Milk-vetch in the Action Area

The Bureau manages approximately 148 acres of Cushenbury milk-vetch habitat. That amount is approximately 13 percent of the total of 1,201 acres of occupied habitat (Forest Service and Bureau 2004). Most of the occurrences within the action area are at lower elevations than those on Forest Service lands. Maintaining plants in a diversity of habitats, such as may occur over a range of elevations, likely captures a greater degree of genetic variation, which is important in conserving a species on the long term.

The primary land use that has affected critical habitat of Cushenbury milk-vetch is commercial limestone mining, which has occurred on approximately 1,590 acres on the north slope of the San Bernardino Mountains. Only 2 percent of the disturbed area within carbonate habitat (32 of the 1,590 acres) is on lands managed by the Bureau (San Bernardino National Forest GIS database, Eliason pers. comm. 2003a). Most of these impacts occurred prior to Federal listing of the carbonate plants and, to our knowledge, commercial limestone mining does not currently occur within carbonate plant habitat on Bureau lands. Within the last few years, the Bureau issued a patent for 320 acres of land within this region (Threloff pers. comm. 2003). Currently, few land uses occur in areas occupied by Cushenbury milk-vetch.

Status of Critical Habitat of Cushenbury Milk-vetch in the Action Area

Approximately 841 acres (19 percent) of critical habitat of Cushenbury milk-vetch occur on public land managed by the Bureau (Forest Service and Bureau 2004). This acreage indicates the size of the polygons of critical habitat, but not the amount of area that contains the primary constituent elements (67 *Federal Register* 78570). Approximately 543 acres of the critical habitat on public lands have been claimed under the provisions of the mining laws (Forest Service and Bureau 2004). We do not have any further information on the condition of critical habitat in the action area; to the best of our knowledge, most of the area of critical habitat has not been disturbed since its designation.

EFFECTS OF THE ACTION ON CUSHENBURY MILK-VETCH AND ITS CRITICAL HABITAT

Effects of the West Mojave Plan on Cushenbury Milk-vetch and its Critical Habitat

The area where Cushenbury milk-vetch may be affected by the Bureau's proposals includes public lands supporting the species or its critical habitat within the Carbonate Endemic Plants Research Natural Area on the northern slope of the San Bernardino Mountains in the area to the east of Highway 18 and north of the boundary of the San Bernardino National Forest. Figure 2-11 on the final environmental impact report and statement depicts the Carbonate Endemic Plants Research Natural Area. This area is appropriate to consider in this biological opinion because it includes all areas where Cushenbury milk-vetch occurs within the California Desert

Conservation Area; additionally, the Bureau designated the Carbonate Endemic Plants Research Natural Area to include the areas where this species may be found and affected by its activities.

Amendment 1, New Areas of Critical Environmental Concern

The Bureau will designate a 5,169-acre area of critical environmental concern for the carbonate plant species.

Effects on Cushenbury Milk-vetch

The actions proposed by the Bureau and activities that would occur under the provisions of the West Mojave Plan would affect Cushenbury milk-vetch in the same manner as we discussed for Parish's daisy. Consequently, with the exception of the following paragraphs, we will not discuss these effects herein.

The Bureau's proposal to adopt a standard of no surface occupancy to prevent undue and unnecessary degradation of lands, under the surface mining regulations, to protect Cushenbury milk-vetch is another important element of the conservation strategy. As a result of the adoption of this standard, surface disturbance would be prohibited on 80 acres occupied by Cushenbury milk-vetch on public lands that have been claimed under the provisions of the General Mining Law of 1872. Additionally, the same protections would apply to approximately 68 acres of occupied habitat on public lands that have not been claimed under the General Mining Law of 1872. (The areas of claimed and unclaimed land are from Forest Service and Bureau 2004.) Private lands that may be acquired will not be opened to mineral entry. Therefore, these actions will prevent loss of individuals of Cushenbury milk-vetch as a result of mining activities.

The one percent threshold for new ground disturbance will apply in this area of critical environmental concern. Approximately 148 acres of occupied habitat for Cushenbury milk-vetch occur within the area of critical environmental concern. Because of the one percent threshold, up to approximately 52 acres of this occupied habitat may be disturbed. Conversely, Cushenbury milk-vetch occurring on the remaining 96 acres of occupied habitat within this area will not be disturbed by project-level activities. We expect that the likelihood is extremely low that of all of the 52 acres of disturbance would occur within occupied habitat of Cushenbury milk-vetch. Consequently, more than 96 acres of habitat occupied by Cushenbury milk-vetch is likely to be conserved. Additionally, this area currently receives little use and few proposals for development; we expect this situation will continue. For these reasons, we conclude that the general management direction provided by the West Mojave Plan will not appreciably reduce the reproduction, numbers, or distribution of Cushenbury milk-vetch.

With the exception of casual use, such as hiking, bird watching, equestrian use, and photography, all of the activities described in this section would be subject to future consultations, pursuant to section 7(a)(2) of the Act, as appropriate. We will be better able to determine the effects of specific actions at the time they are proposed.

Effects on Critical Habitat of Cushenbury Milk-vetch

The actions proposed by the Bureau and activities that would occur under the provisions of the West Mojave Plan would affect critical habitat of Cushenbury milk-vetch in the same manner as we discussed for critical habitat of Parish's daisy. Consequently, with the exception of the following paragraphs, we will not discuss these effects herein.

The Bureau's proposal to adopt a standard of no surface occupancy to prevent undue and unnecessary degradation of lands, under the surface mining regulations, to protect Cushenbury milk-vetch is another important element of the conservation strategy. As a result of the adoption of this standard, surface disturbance would be prohibited on 543 acres of the species' critical habitat on public lands that have been claimed under the provisions of the General Mining Law of 1872. Additionally, the same protections would apply to approximately 298 acres of critical habitat of Cushenbury milk-vetch on public lands that have not been claimed under the General Mining Law of 1872. (The areas of claimed and unclaimed land are from Forest Service and Bureau 2004.) Private lands that may be acquired will not be opened to mineral entry. Therefore, these actions will prevent degradation of the primary constituent elements of critical habitat of Cushenbury milk-vetch as a result of mining activities.

The one percent threshold for new ground disturbance will apply in this area of critical environmental concern. Approximately 799 acres of critical habitat of Cushenbury milk-vetch occur within the area of critical environmental concern (Bureau 2005b). Because of the one percent threshold, up to approximately 52 acres of the critical habitat may be disturbed. Conversely, the remaining acres 747 acres of critical habitat of Cushenbury milk-vetch within this area will not be disturbed by project-level activities.

Critical habitat outside of the area of critical environmental concern will not be subject to the one percent limit on new disturbance or managed at the same level of protection; consequently, it may be at slightly greater risk of disturbance. The maximum amount of critical habitat of Cushenbury milk-vetch on Bureau lands that may be lost under the provisions of the West Mojave Plan would be 96 acres (i.e., 52 acres within the area of critical environmental concern, plus 44 acres of critical habitat outside of the boundaries of the area of critical environmental concern (Bureau 2005b)). Approximately 841 acres of critical habitat of Cushenbury milk-vetch occur on public lands managed by the Bureau. Under the worst case scenario described in the Carbonate Habitat Management Strategy for Cushenbury milk-vetch, approximately 3,302 acres of the total of 4,356 acres of critical habitat would be set aside; this figure includes the area of critical habitat on both Forest Service and Bureau lands. Consequently, the upper limit of disturbance of critical habitat of Cushenbury milk-vetch that could occur under the direction of the West Mojave Plan would constitute approximately 25 percent of the total area of critical habitat that is likely to be set aside under the auspices of the Carbonate Habitat Management Strategy. We note that this analysis is doubly conservative because we used the upper limits of disturbance on public lands and the lowest estimate of critical habitat set aside on a range wide basis to arrive at this percentage. Consequently, under the worst case scenario, approximately 75 percent of designated critical habitat would not be subject to disturbance. For this reason, we

conclude that the general management direction provided by the West Mojave Plan will not compromise the conservation role and function of critical habitat of Cushenbury milk-vetch.

With the exception of casual use, such as hiking, bird watching, equestrian use, and photography, all of the activities the Bureau would undertake, fund, or authorize in these habitat conservation areas will be subject to future consultations, pursuant to section 7(a)(2) of the Act, as appropriate. We will be better able to determine the effects of specific actions on the primary constituent elements of critical habitat at the time they are proposed.

Amendment 3, Changes in Multiple-use Class Designations

The Bureau proposes to change the multiple-use class designations from Class M to Class L on 4,393 acres on the north slope of the San Bernardino Mountains within the Carbonate Endemic Plants Area of Critical Environmental Concern.

Effects on Cushenbury Milk-vetch

This action will benefit Cushenbury milk-vetch because designation of the area as Class L limits, to a certain degree, the amount of development activity that may occur. We recognize that all development is not prohibited on Class L lands. Our previous biological opinion on the California Desert Conservation Area Plan evaluated the program direction provided by the Bureau's land use classification; we will not repeat that analysis herein. As we noted previously in this biological opinion, specific future actions that the Bureau proposes under the Class L designation will be subject to the consultation requirements of section 7(a)(2) of the Act, as appropriate.

Effects on Critical Habitat of Cushenbury Milk-vetch

The change proposed by the Bureau will promote the conservation role and function of critical habitat by including these portions of critical habitat in areas that will be managed under the guidelines of Class L, because, as we have stated previously in this biological opinion, these guidelines provide a greater emphasis on the conservation of natural resources than other land use classes (with the exception of Class C) and the one percent limit on surface disturbance associated with desert wildlife management areas and area of critical environmental concerns will apply. Specific future actions the Bureau proposes under the Class L designation that may affect critical habitat of Cushenbury milk-vetch will be subject to the consultation requirements of section 7(a)(2) of the Act, as appropriate.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section

because they require separate consultation pursuant to section 7 of the Act. The County of San Bernardino did not identify any projects that are reasonably certain to occur within the action area (Sansonetti 2005).

CONCLUSIONS

Cushenbury Milk-vetch

After reviewing its current status, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the amendment of the California Desert Conservation Area Plan, as proposed by the Bureau through the West Mojave Plan, is not likely to jeopardize the continued existence of Cushenbury milk-vetch.

We reached this conclusion for two reasons. First, the general guidance provided by the California Desert Conservation Area Plan and the specific actions contained in the West Mojave Plan will ensure that actions the Bureau takes, funds, and authorizes are not likely to reduce appreciably, either directly or indirectly, the reproduction, numbers, or distribution of Cushenbury milk-vetch; additionally, we did not detect any cumulative effects that would substantially alter the status of Cushenbury milk-vetch in the action area. Second, the Bureau has proposed and, in some cases, already implemented, measures to avoid or reduce adverse effects to the Parish's daisy and to further its conservation. These measures include, but are not limited to:

- The establishment of an area of critical environmental concern that will be managed in a manner that will promote the survival and recovery of the species within this portion of its range;

- The designation of all lands within the area of critical environmental concern as Class L, which will provide increased protection to Cushenbury milk-vetch over that currently provided by Class M;

- Removal of livestock grazing from habitat occupied by Cushenbury milk-vetch;

- Acquisition of private lands, which will result in a higher level of protection of Cushenbury milk-vetch under the guidance of the California Desert Conservation Area Plan;

- A limit of one percent of new disturbance within the area of critical environmental concern to reduce the loss of Cushenbury milk-vetch, which will ensure that most individuals and their habitat in areas that are essential to their conservation will not be exposed to the adverse effects of human activities; and

- The adoption of a no surface occupancy standard within the area of critical environmental concern, which will eliminate the loss of Cushenbury milk-vetch as a result of mining activities.

- Designation of all routes of travel within the area of critical environmental concern as limited use.

Critical Habitat

After reviewing the current status of critical habitat, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the amendment of the California Desert Conservation Area Plan, as proposed by the Bureau through the West Mojave Plan, is not likely to destroy or adversely modify the critical habitat of Cushenbury milk-vetch.

We reached this conclusion for two reasons. First, although the condition of critical habitat within some portions of the action area of this consultation has been degraded to a degree because one or more of the primary constituent elements have been disturbed by past human activities, the general guidance provided by the California Desert Conservation Area Plan and the specific actions contained in the West Mojave Plan are compatible with the function of critical habitat of Cushenbury milk-vetch; additionally, we did not detect any cumulative effects that would alter the status of critical habitat of Cushenbury milk-vetch in the action area. Second, the Bureau has proposed and, in some cases, already implemented, measures to avoid or reduce adverse effects to the critical habitat of Cushenbury milk-vetch and to further the proper functioning of the primary constituent elements. These measures include, but are not limited to, the following actions and proposals:

- The establishment of an area of critical environmental concern encompassing most of the critical habitat of Cushenbury milk-vetch and its management in a manner that will promote the survival and recovery of the species within this portion of its range;

- Removal of livestock grazing from critical habitat;

- The designation of all lands within the area of critical environmental concern as Class L, which will facilitate management of critical habitat of Cushenbury milk-vetch to a greater degree than that currently provided by Class M;

- Acquisition of private lands, which will result in a higher level of protection for critical habitat under the guidance of the California Desert Conservation Area Plan;

- A limit of one percent of new disturbance within the area of critical environmental concern, which will ensure that most critical habitat in these areas will not be exposed to the adverse effects of human activities; and

- The adoption of a no surface occupancy standard within the area of critical environmental concern, which will eliminate disturbance to or loss of the primary constituent elements of critical habitat of Cushenbury milk-vetch as a result of mining activities.

- Designation of all routes of travel within the area of critical environmental concern as limited use.

BIOLOGICAL OPINION FOR LANE MOUNTAIN MILK-VETCH

STATUS OF LANE MOUNTAIN MILK-VETCH

Basic Ecology of the Lane Mountain Milk-vetch

The Lane Mountain milk-vetch is a perennial plant species in the pea family. It is a slender, diffuse plant, 12 to 27.5 inches tall, with straggling, freely branched stems that arise from a buried root-crown (Barneby 1964). Herbage is light-gray or greenish, strigulose with short, fine, straight hairs. The flowers, 5 to 15 per stalk, are cream to purple, or lighter with veins of a deeper color. Fruits are pencil-shaped, linear, smooth, and pendant, 0.6 to 1 inch long; each fruit bears 4 to 18 seeds.

Plants of this species typically grow under and entangled within the canopy of low shrubs. Few plants have been observed in the open. Most of the host species are intricately branched low shrubs, but a few of the observed hosts are bunch grasses (*Stipa* sp.) and subshrubs such as Mojave aster (*Machaeranthera tortifolia*) and wishbone bush *(Mirabilis bigelovii*); the most common host plants are turpentine bush *(Thamnosma montana*), white bursage (*Ambrosia dumosa*), California buckwheat (*Eriogonum fasciculatum* var. *polifoium*), Cooper goldenbush (*Ericameria cooperi*), and Mormon tea (*Ephedra nevadensis*) (Charis Professional Services Corporation 2002, Prigge et al. 2000). Host plants are usually living, but Lane Mountain milk-vetch also occurs in dead shrubs. Many of the host species are used more frequently by Lane Mountain milk-vetch than what would be expected by chance based on their abundance in the area (Prigge et al. 2000).

The scrub community at Lane Mountain milk-vetch sites is typically a diverse mix of shrub species. Brandt et al. (1997) characterized milk-vetch sites as areas where Nevada Mormon tea (*Ephedra nevadensis*) and Cooper goldenbush (*Ericameria cooperi*) are dominant shrubs and where the shrub density is greater than in surrounding areas. The Lane Mountain milk-vetch occurs at elevations of approximately 3,100 to 4,100 feet (Charis Professional Services Corporation 2002).

Lane Mountain milk-vetch occurs on rocky, low ridges, only a foot or two higher than the main bajada slope, and rocky low hills, 10 to 20 feet high, where bedrock is exposed or probably near the surface (Lee and Ro Consulting Engineers 1986). It appears to be largely confined to granitic substrates and to a lesser extent on dioritic and gabbroic-derived soils (Charis Professional Services Corporation 2002).

Lane Mountain milk-vetch seems to have a short growing period in very dry years (Bagley 1989). The perennial rootstock may allow the Lane Mountain milk-vetch to survive occasional dry years; it may endure longer periods of drought by remaining dormant. It typically blooms in April and May, but will bloom as early as February if conditions are favorable.

Limited observations on its pollinators were carried out in 2003 (Kearns 2003 in Service 2004b). Although 30 species of insects were observed visiting flowers in the area, only 4 visited Lane Mountain milk-vetch flowers. The most frequent pollinator was *Anthidium dammersi*, a solitary bee in the megachilid family (Megachilidae) that occurs in the Mojave and Colorado deserts of California, Nevada, and Arizona (Kearns 2003 in Service 2004b). Additional pollinator observations were made in 2004 and are continuing in 2005 (Hopkins 2004).

With careful observation, seedlings can be distinguished from resprouts of established plants by the presence of small cotyledons and a reduced number of leaflets on the youngest branches. Sharifi et al. (2004) observed that, at least in one year, most seedlings died before becoming large enough to bear flowers. In a greenhouse, Sharifi et al. (2003) and Sharifi in litt. (2003 in Service 2004b) determined that 11 percent of seeds germinated readily without additional treatment (e.g., scarification or cold stratification) and 100 percent of seeds germinated with scarification. After germination, seedlings reached 1 to 2 inches in length in 4 to 6 weeks, indicating that the seedlings may be allocating most of their initial growth into root production.

Rundel et al. (2004) tracked over 200 Lane Mountain milk-vetch individuals at 5 locations between 1999 and 2004 and found that less than 15 percent had survived over the 5-year time period. This research indicates that successful recruitment (addition of individuals to a population by reproduction) is correlated with, among other factors, annual precipitation of at least 5.9 inches. Annual precipitation between 4.7 and 5.9 inches may allow established individuals to persist, annual precipitation between 2.8 in and 4.7 inches may cause some individuals die due to water stress, and annual precipitation of less than 2.8 inches may cause many individuals die due to water stress or remain dormant. The level of annual precipitation needed for recruitment (more than 5.9 inches) had not occurred between 1998 and 2004 and it appears that the numbers of individuals of Lane Mountain milk-vetch have been in decline since that time. If the length of time between years favorable for recruitment is longer than the average lifespan of individuals, then the species will be dependent on the seedbank to re-establish above-ground populations. Therefore, the numbers of individuals of Lane Mountain milk-vetch fluctuate over time, not only from year to year, but from one decade to the next, depending on long-term climatic trends. This aspect of the ecology of the species is important to understand in the context of management decisions regarding the maintenance of habitat of suitable quality to maximize the reproductive potential of the species during climatically favorable years.

Status of Lane Mountain Milk-vetch

Lane Mountain milk-vetch was listed as endangered on October 6, 1998 (63 *Federal Register* 53596). The Lane Mountain milk-vetch was listed because of threats related to habitat destruction from dry wash gold mining, other mining activities (materials lease mining), rock

and mineral collecting, off-highway vehicle activity, and potentially from increasing fire frequency and any associated fire suppression activities.

The Lane Mountain milk-vetch is known only from four occurrences within an area of land that is approximately 18 miles in diameter. The southwestern end of the range lies on the northeastern slopes of the Mud Hills; from the Mud Hills, occurrences extend generally to the northeast, across the lower slopes of Lane Mountain and the northern portion of the Paradise Range, ending in unnamed hills in the southern portion of the Goldstone Deep Space Communications Complex. The NASA Goldstone occurrence is located on lands managed by the National Aeronautics and Space Administration and the Department of the Army within the boundaries of Fort Irwin; it is located to the east of the Superior Valley parcel. The Brinkman Wash-Montana Mine occurrence is located within the boundaries of Fort Irwin to the southwest of the NASA Goldstone occurrence. Most of the Paradise Valley occurrence is located within the boundaries of Fort Irwin to the west and southwest of the Brinkman Wash-Montana Mine occurrence; the remaining portions of the occurrence are located on lands managed by the Bureau. We will discuss the Coolgardie Mesa occurrence, which is located to the southwest of the Paradise Valley occurrence, in the Environmental Baseline section of this biological opinion. Based on the available historical and recent information, the Lane Mountain milk-vetch does not appear to have been more widespread than is currently known; no extirpations of populations have been documented.

From mid-April through early August, 2001, the Army conducted extensive surveys for the Lane Mountain milk-vetch. A full description of the methodologies is provided in Charis Professional Services Corporation (2002). The surveys were focused on areas that had not been surveyed in 1999 because data from the 1999 survey was to be included in the final results. The primary objectives of the survey were to identify new occurrences of the Lane Mountain milk-vetch, determine the boundaries of the occurrences, and collect enough information to estimate population numbers. The surveyors used three types of transects; each transect type involved 4 to 7 surveyors walking approximately 30 feet apart and making one or more passes over an area. The surveyors collected GPS and other data on each plant that was detected; after the first 2 weeks, the surveyors reduced the amount of data that were being collected on each plant because of the large number of individuals being detected.

The boundaries of occurrences were mapped to include every plant that was found. The extent of each occurrence was then mapped using a minimum convex polygon (i.e., the smallest polygon in which no internal angle exceeds 180 degrees). The average density of plants was calculated by dividing the total number of plants observed in the occurrence for the area within the transects. The number of plants in the occurrence was then calculated by multiplying the size of the occurrence by the average density of plants. Because individuals of the Lane Mountain milk-vetch are difficult to observe for a variety of reasons and different surveyors vary in their ability to detect plants, the Army developed an "observability" formula to assist in estimating the total number of plants in each occurrence. The following table provides an estimate of the number of Lane Mountain milk-vetch plants adjusted by the observability factor and the actual number of plants observed during surveys within the occurrences found on land managed by the Department of the Army.

Percentage of Observability	NASA Goldstone	Brinkman Wash-Montana Mine	Paradise Valley [3]	All Locations Combined [2]
10 percent	1,399	3,109	4,324	14,121
50 percent	2,799	6,219	8,648	28,241
100 percent	13,993	31,094	43,239	141,207
Total Recorded Plants[1, 2]	555	1,487	1,667	5,723

[1] The total number of plants includes only those detected in the 1999 and 2001 surveys. The total number of plants includes mature plants only; seedlings are excluded from the total.

[2] The total number of plants is for the entire range; that is, it includes plants found on Bureau and private lands on Coolgardie Mesa even though this occurrence is not included in this table. Information on the number of plants within the Coolgardie Mesa occurrence is contained in the Environmental Baseline section for Lane Mountain milk-vetch.

[3] The total number of plants for the Paradise Valley occurrence includes plants found on Bureau and private lands outside the boundaries of Fort Irwin. Because the area of this occurrence on Bureau and private lands is a small fraction of the area of entire occurrence, the number of plants is also likely to be a small portion of the total.

The Army conducted additional surveys in 2003. Nine new plants were found clustered in a relatively small area outside the boundary of the Paradise Valley occurrence (Science Applications International Corporation 2003). Mike Dungan of Science Applications International Corporation, who conducted the 2003 surveys, did not believe that these plants warranted increasing the minimum convex polygon for the occurrence. Three new plants were also found outside the boundary of the Coolgardie Mesa occurrence in 2003; Dr. Dungan believed that these individuals did not justify expanding the map of the distribution of Lane Mountain milk-vetch at Coolgardie Mesa.

The Army speculates that the sizes of the occurrences and numbers of individuals likely represent minimum levels "because the survey year represented a normal rainfall year preceded by (2) years of drought and population boundaries were conservatively drawn" and that the boundaries of the occurrences and numbers of individuals may fluctuate after several successive years of normal or above normal rainfall (Charis Professional Services Corporation 2003). We cannot address the degree of conservatism used to draw the boundaries of the occurrences; however, we expect that the information presented in the biological assessment likely represents a reasonable distribution of the plants. Given the normal patterns of rainfall in the Mojave Desert, we would not expect that short-term differences in rainfall would substantially alter the distribution of the Lane Mountain milk-vetch.

The following table describes the current acreage of the occurrences, based on the Army's use of minimum convex polygons to define the boundaries, and ownership information.

	NASA Goldstone	Brinkman Wash–Montana Mine	Paradise Valley	All Locations Combined [4]
Acreage[1]	1,283	5,497	4,794	21,349
Land Management Agencies or Owners	Army, NASA	Army[2]	Army, Bureau[3]	

[1]Total acreage in polygons.
[2]This occurrence includes a small amount of private and State Lands Commission lands; however, the Army proposes to acquire these areas.
[3]This occurrence includes a small amount of private lands; these areas are proposed for acquisition by the Army or, if they occur outside the boundaries of Fort Irwin, by either the Army or Bureau.
[4]The total acreage is for the entire range; that is, it includes areas on Bureau and private lands on Coolgardie Mesa even though this occurrence is not included in this table. Information on the acreage for the Coolgardie Mesa occurrence is contained in the Environmental Baseline section for the Lane Mountain milk-vetch.

Note that the Service issued a biological opinion to the Army on March 15, 2004, regarding the proposed use of additional training lands at Fort Irwin. In the biological opinion, we concluded that the proposed action was not likely to jeopardize the continued existence of the Lane Mountain milk-vetch. The Army estimated that approximately 11,387 acres of Lane Mountain milk-vetch habitat occur within Fort Irwin. As a result of the proposed action, approximately 6,789 acres would be placed in conservation areas and a 'no-dig' zone; this amount comprises approximately 58.6 percent of the area within the occurrences. The use of the new training lands would result in the loss of approximately 4,598 acres; this amount comprises approximately 21.5 percent of the known habitat for this species.

Recovery Plan

The Service is currently preparing a recovery plan.

Status of Critical Habitat of Lane Mountain Milk-vetch

We published a proposal to designate critical habitat for the Lane Mountain milk-vetch on April 6, 2004 (69 *Federal Register* 18018). In our final rule, which was published on April 8, 2005, we did not designate any critical habitat, based on the "evaluation of the relationship of essential habitat to sections 3(5)(a), 4(a)(3), and 4(b)(2) of the Act" (70 *Federal Register* 18220).

Consequently, we will not discuss critical habitat in relation to the Lane Mountain milk-vetch again in this biological opinion.

ENVIRONMENTAL BASELINE FOR LANE MOUNTAIN MILK-VETCH

Previous Consultations

Sheep grazing has not occurred within the habitat of this species since 1989 as a result, first, of drought and, secondly, of a consultation between the Service and Bureau on the desert tortoise. That consultation resulted in a grazing program for the western Mojave Desert in which sheep were excluded from most of the area designated as critical habitat for the desert tortoise (Service 1994d). The Lane Mountain milk-vetch occurrences in the action area of this consultation are entirely within critical habitat of the desert tortoise.

On February 27, 2002, the Service issued a biological opinion in which we found that the continued implementation of the California Desert Conservation Area Plan, as amended and modified by interim measures, was not likely to jeopardize the continued existence of the Lane Mountain milk-vetch (Service 2002c). This program level biological opinion evaluated the management direction contained in the California Desert Conservation Area Plan. It did not address any specific future actions, although it acknowledged that casual uses authorized by the California Desert Conservation Area Plan could possibly affect the Lane Mountain milk-vetch and its habitat to a limited degree.

On June 30, 2003, the Service issued a biological opinion for route designation in the western Mojave Desert; we determined that the proposed action was not likely to jeopardize the continued existence of the Lane Mountain milk-vetch (Service 2003a). This biological opinion evaluated the specific route network in existence in the western Mojave Desert. It did not address any specific future actions, although it acknowledged that casual use of designated routes could possibly affect the Lane Mountain milk-vetch and its habitat to a limited degree.

Status of the Lane Mountain Milk-vetch in the Action Area

The Coolgardie Mesa occurrence and a small portion of the Paradise Valley occurrence are located at least partially on public lands. The portion of the Paradise Valley occurrence outside of Fort Irwin is approximately 200 acres. The Coolgardie Mesa occurrence covers approximately 9,775 acres; approximately 718 acres (7.3 percent) of this occurrence are privately owned (Service 2005e). The Department of the Army has acquired several parcels of land in this area as mitigation for the impacts of using additional training lands within Fort Irwin.

The action area supports approximately 9,975 acres of occupied habitat of Lane Mountain milk-vetch and therefore includes almost half of the total area occupied by the species. Given the area of occupied Lane Mountain milk-vetch habitat that will likely be disturbed by future training activities within Fort Irwin, conservation of the occurrences on public lands is essential.

The survey conducted by the Army in 2001 constitutes the best available data on the abundance of the Lane Mountain milk-vetch in the action area. Using the same analysis that was described in the Status of the Lane Mountain Milk-vetch section of this biological opinion, the Army concluded that, at 100, 50, and 10 percent of observability, the occurrence of the Lane Mountain milk-vetch on Coolgardie Mesa supports 5,288, 10,576, and 52,881 plants respectively; 2,014 plants were recorded during the survey.

The final environmental impact report and statement notes that the Coolgardie mining district overlaps the western portion of the proposed Coolgardie Conservation Area. This part of the California Desert Conservation Area is managed for mining activity under multiple-use Class L. Gasoline or hand-powered dry washing or sluicing has been done intermittently in this area since 1900. The heaviest concentration of mining claims lies to the west. Schulte (2005a, b) reports that the 22 mining claims located within the Coolgardie Conservation Area cover approximately 785 acres. Approximately 10,107 acres of public lands lie within this 13,354-acre conservation area (Bureau et al. 2005).

The West Paradise Conservation Area includes 1,243 acres; the Bureau manages approximately 257 acres within this area (Bureau et al. 2005). This area supports a moderate potential for mineral resources (Schulte 2005b); it does not contain any claimed areas (Bureau 2003f).

Members of at least four recreational prospecting and mining clubs frequent the area. The larger clubs may have a membership of 400 families. Most of these individuals are operating under casual use and may continue to do so as long as they reclaim their hand-dug pits and the cumulative disturbance does not cause more than "negligible" disturbance (Bureau et al. 2005).

The Coolgardie Mesa occurrence is crossed by numerous roads. In many areas, vehicles seem to remain primarily on the established routes. In the southernmost portion of the occurrence, off-road vehicles use a few large denuded areas as staging areas and spread out from this area. Mark Hessing (pers. comm. 2004) notes that he has observed off-road vehicles traveling through habitat of the Lane Mountain milk-vetch approximately 0.25 mile to the west of Copper City Road, the main dirt road through this occurrence.

As part of the proposed action for the use of additional training lands at Fort Irwin, the Army committed to providing funds or labor to close and rehabilitate roads in the Coolgardie Mesa and West Paradise Conservation Areas. Closure and rehabilitation of unauthorized routes would be an important element in the conservation of the Lane Mountain milk-vetch. Designation and clear marking of open routes in this area, combined with acquisition of private parcels, would allow law enforcement personnel from the Bureau to protect Lane Mountain milk-vetch habitat more effectively. The physical closure of roads, which the Army has proposed to fund, would also increase the level of protection for the Lane Mountain milk-vetch by reducing access points to its habitat and better enabling the Bureau's rangers to police the route network. In total, the measures proposed by the Army should improve the baseline conditions of the Lane Mountain milk-vetch within the action area.

EFFECTS OF THE WEST MOJAVE PLAN ON LANE MOUNTAIN MILK-VETCH

The area where Lane Mountain milk-vetch may be affected by the Bureau's proposals includes all public lands within the West Paradise and Coolgardie Mesa conservation areas in the region generally located to the north of the city of Barstow and south of Fort Irwin. These conservation areas cover 257 and 10,107 acres, respectively. Figure 2-10 on the final environmental impact report and statement depicts these areas. This area is appropriate to consider in this biological opinion because it includes all areas where Lane Mountain milk-vetch occurs within the California Desert Conservation Area; additionally, the Bureau designated the West Paradise and Coolgardie Mesa conservation areas to include the areas where this species may be found and affected by its activities.

Amendment 1, New Areas of Critical Environmental Concern

The Bureau will designate two areas of critical environmental concern for Lane Mountain milk-vetch. The Coolgardie Mesa Conservation Area will cover 10,107 acres of public land. The West Paradise Conservation Area will cover 257 acres of public land.

The actions proposed by the Bureau and activities that would occur under the provisions of the West Mojave Plan would affect Lane Mountain milk-vetch in the same manner as we discussed for Parish's daisy. Consequently, with the exception of the following paragraphs, we will not discuss these effects herein.

The Bureau's proposal to withdraw the habitat conservation area from mineral entry, subject to valid existing rights, to protect Lane Mountain milk-vetch is an important element of the conservation strategy. As a result of the withdrawal, approximately 9,322 acres of public lands within the Coolgardie Conservation Area that have not been claimed under the General Mining Law of 1872 would be unavailable for any type of exploration or development of minerals. (The acreage of claimed land cited in this discussion is from Schulte 2005b. We arrived at the estimate of 9,322 acres of unclaimed public lands by subtracting the acreage of claimed public lands provided by Schulte [2005b] for the acreage of public lands in the conservation area cited in the environmental impact report and statement. See Table 2-31.) An additional 785 acres of the habitat conservation area (Schulte 2005b) that have already been claimed could be subjected to validity examinations to determine if a claimed area contains economically viable mineral deposits; if the claim does not contain economically viable mineral deposits, the Bureau could deny an application to mine the area and extinguish the claim. The 257 acres of public land within the West Paradise Conservation Area will also be withdrawn from mineral entry. Private lands that may be acquired will not be opened to mineral entry. These actions will likely prevent degradation of the conservation areas by mining clubs and others interested in mineral resources.

The one percent threshold for new ground disturbance will apply in these areas of critical environmental concern. Because of the one percent threshold, up to approximately 2.6 acres of the West Paradise Conservation Area and 101 acres of the Coolgardie Mesa Conservation Area may be disturbed. Conversely, Lane Mountain milk-vetch occurring on the remaining 254 and 10,006 acres of the two conservation areas, respectively, will not be disturbed by project-level

activities. Note also that measure P-26 on page 2-108 of the final environmental impact report and statement states that the Bureau will not issue any permits that involve loss of Lane Mountain milk-vetch plants; this measure should ensure that activities authorized by the Bureau do not result in a direct reduction in the number of individuals of this species. For these reasons, we conclude that the general management direction provided by the West Mojave Plan will not appreciably reduce the reproduction, numbers, or distribution of Lane Mountain milk-vetch.

With the exception of casual use, such as hiking, bird watching, equestrian use, and photography, all of the activities that the Bureau would undertake, fund, or authorize in these conservation areas will be subject to future consultations, pursuant to section 7(a)(2) of the Act, as appropriate. We will be better able to determine the effects of specific actions at the time they are proposed. Given the commitments made by the Bureau through measure P-26 in the final environmental impact report and statement, we anticipate that future actions are unlikely to cause appreciable deterioration of the status of Lane Mountain milk-vetch.

Amendment 3, Changes in Multiple-use Class Designations

The Bureau would change the multiple-use class designations from Class M to L on 10,364 acres within the Coolgardie Mesa and West Paradise conservation areas to benefit Lane Mountain milk-vetch.

This action will benefit Lane Mountain milk-vetch because designation of these areas as Class L limits, to a certain degree, the amount of development activity that may occur. We recognize that all development is not prohibited on Class L lands. Our previous biological opinion on the California Desert Conservation Area Plan evaluated the program direction provided by the Bureau's land use classification; we will not repeat that analysis herein. As we noted previously in this biological opinion, specific future actions that the Bureau proposes under the Class L designation will be subject to the consultation requirements of section 7(a)(2) of the Act, as appropriate.

Amendment 9, Public Land Vehicle Access Network

The Bureau proposes to eliminate an additional 5 miles of routes within the area occupied by Lane Mountain milk-vetch than were proposed in the initial route designation process; approximately 21 miles of routes would remain in habitat of the Lane Mountain milk-vetch in the Coolgardie Mesa area after adoption of the amended California Desert Conservation Area Plan (Pratini pers. comm. 2004). The legal use of designated routes could negatively affect the Lane Mountain milk-vetch if dust generated by the passage of vehicles impairs the rate of photosynthesis or the effectiveness of pollinators. The U.S. Geological Survey evaluated the effects of dust on Lane Mountain milk-vetch and concluded that, at the current level of use, dust generated by vehicle use of unpaved roads on Coolgardie Mesa does not greatly affect Lane Mountain milk-vetch (Wijayratne et al. 2005). To date, the effects of dust on pollinators of Lane Mountain milk-vetch have not been studied; we anticipate that, at the current level of use, these effects will be minor because Lane Mountain milk-vetch plants reproduce in close proximity to the routes of travel.

The presence of designated routes of travel through or near the habitat of Lane Mountain milk-vetch facilitates illegal vehicle use off of designated routes. Although the section 7(a)(2) process is not intended to review illegal activities, unauthorized off-road use occurs at least partially as a result of authorized activities and access. The terrain where the Lane Mountain milk-vetch occurs is accessible and can be traversed by both motorcycles and four-wheeled vehicles. In the past, we have observed tracks made by motorcycles within and adjacent to habitat of the Lane Mountain milk-vetch, both on Coolgardie Mesa and on former public lands west of the Paradise Range. More recently, we have observed high levels of vehicular use off of designated routes in the southwestern portion of Lane Mountain milk-vetch habitat on Coolgardie Mesa. The Environmental Baseline section of this section of the biological opinion provides more information on this unauthorized activity.

The reduction in the amount of routes proposed by the Bureau may, in and of itself, diminish the effects of unauthorized use of vehicles in Lane Mountain milk-vetch habitat, primarily because the unauthorized users seem to establish base camps near designated routes; most damage to habitat occurs relatively near these staging areas. The reduction in designated routes would likely render at least some portions of Lane Mountain milk-vetch habitat more distant from staging areas and therefore less likely to be damaged by off-road use. Note that the administrative designation of a route as closed may be ineffective until the Bureau can eliminate the road on the ground; funding that the Army has committed to provide to mitigate for the effects of the expansion of Fort Irwin should enable the Bureau to implement numerous route closure projects.

Amendment 10, Stopping and Parking of Motorized Vehicles and Vehicular Camping

Under the proposed amendment to the California Desert Conservation Area Plan, the distance from the centerline of a route that motorized vehicles will be allowed to stop, park, and camp will be reduced from 300 to 50 feet. Such off-road travel can crush individuals of the Lane Mountain milk-vetch and its host plants, degrade habitat (particularly by removing the thin granitic substrates where Lane Mountain milk-vetch plants grow), and cause the spread of non-native plant species. Neither we nor the Bureau can provide any quantitative information on how frequently desert users leave routes of travel for these distances to camp, stop, and park outside of existing disturbed areas. In at least some areas that are occupied by the Lane Mountain milk-vetch, the density of vegetation would likely prevent most desert users from leaving designated routes of travel. We acknowledge that the proposed action would decrease the distance that vehicles are allowed to travel away from roads; as such, the proposed action will reduce the potential that off-road vehicle use will damage Lane Mountain milk-vetch and its habitat when compared with the current situation. We also acknowledge that, in our experience with areas that are occupied by this species, we have not seen any evidence that people are using areas away from designated routes for stopping, parking, and camping. The staging areas for unauthorized off-road vehicle use at the southern end of the Coolgardie Mesa occurrence may be considered an exception to this statement. These staging areas are heavily disturbed and devoid of most vegetation; the Bureau does not anticipate that the stopping, parking, and camping proposed by this amendment would cause this amount of degradation.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. The County of San Bernardino did not identify any actions that are reasonably certain to occur within the action area for Lane Mountain milk-vetch (Sansonetti 2004).

CONCLUSION

After reviewing its current status, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the amendment of the California Desert Conservation Area Plan, as proposed by the Bureau through the West Mojave Plan, is not likely to jeopardize the continued existence of Lane Mountain milk-vetch.

We reached this conclusion for two reasons. First, the general guidance provided by the California Desert Conservation Area Plan and the specific actions contained in the West Mojave Plan will ensure that actions the Bureau takes, funds, and authorizes are not likely to reduce appreciably, either directly or indirectly, the reproduction, numbers, or distribution of Lane Mountain milk-vetch; additionally, we did not detect any cumulative effects that would substantially alter the status of Lane Mountain milk-vetch in the action area. Second, the Bureau has proposed and, in some cases, already implemented, measures to avoid or reduce adverse effects to the Lane Mountain milk-vetch and to further its conservation. These measures include, but are not limited to:

- The establishment of areas of critical environmental concern that will be managed in a manner that will promote the survival and recovery of the species within this portion of its range;

- The designation of all lands within the area of critical environmental concern as Class L, which will provide increased protection to Lane Mountain milk-vetch over that currently provided by Class M;

- Removal of livestock grazing from habitat occupied by Lane Mountain milk-vetch;

- Acquisition of private lands, which will result in a higher level of protection of Lane Mountain milk-vetch under the guidance of the California Desert Conservation Area Plan;

- A limit of one percent of new disturbance within the area of critical environmental concern to reduce the loss of Lane Mountain milk-vetch, which will ensure that most individuals and their habitat in areas that are essential to their conservation will not be exposed to the adverse effects of human activities; and

- The withdrawal of the area of critical environmental concern from mineral location and entry, which has the potential to reduce, to some degree the number of individuals of Lane Mountain milk-vetch that may be destroyed or disturbed during casual use and under future plans of operation.

- The provision that no activities will be authorized that involve loss of individual Lane Mountain milk-vetch plants.

INCIDENTAL TAKE STATEMENT

Desert Tortoise

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement and occurs as a result of the action as proposed by the Bureau.

The measures described below are non-discretionary and must be undertaken by the Bureau or made binding conditions of any authorization provided to permittees. The Bureau has a continuing duty to regulate the activities covered by this incidental take statement. If the Bureau fails to assume and implement the terms and conditions of the incidental take statement or to make them enforceable terms of permit or grant documents, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, the Bureau must report the progress of its action and their impact on the species to the Service as specified in the incidental take statement (50 *Code of Federal Regulations* 402.14(i)(3)).

The California Desert Conservation Area Plan and West Mojave Plan describe numerous programs under which the Bureau will need to make specific decisions with regard to future actions. Although we have evaluated the general nature of the effects of these actions, both negative and positive, on listed species, we cannot fully assess the potential effects of specific future actions under these programs because information on the location, timing, nature, and other aspects of the actions is not available at this time. Consequently, we cannot provide an exemption from the prohibitions against take, as described in section 9 of the Act, for the incidental take that may result from these future actions that require separate review and authorization by the Bureau. We will review the effects of those actions and, through the section

7(a)(2) consultation process, issue incidental take statements in the future, if appropriate, when the Bureau requests formal consultation on specific discretionary actions.

Given this limitation, this biological opinion provides an exemption from the prohibitions against take only for the incidental take of desert tortoises that is likely to result from actions that are inherently authorized by the approval of the California Desert Conservation Area Plan or its amendments, such as the West Mojave Plan, or from actions for which the record of decision for this bioregional plan constitutes the Bureau's final authorization. These activities include casual use and ongoing grazing within the planning area for the western Mojave Desert.

We cannot quantify the precise numbers of desert tortoises that may be killed or injured as a result of the actions that the Bureau authorizes through approval of the California Desert Conservation Area Plan, as amended by the West Mojave Plan, because of the large size of the action area, the patchy distribution of desert tortoises within the western Mojave Desert, and the unpredictability of when these activities are likely to cause injury or mortality to desert tortoises. Additionally, finding carcasses and assigning a cause of death is problematic over such large areas and in the presence of numerous scavengers that are likely to find dead desert tortoises soon after they die. However, we anticipate that the activities authorized by the Bureau as a direct result of the signing of the record of decision for the West Mojave Plan will result in the incidental take of relatively few desert tortoises.

Casual Use

Incidental take of desert tortoises is likely to occur through casual use (such as walking, equestrian use, or mining conducted at this level, wherever such activities are authorized within the approximately 3,263,874 acres of land managed by the Bureau within the planning area.

Incidental take of desert tortoises is also likely to occur through casual use, in the form of operating vehicles, within the boundaries established for the West Mojave Plan, in the following areas in an authorized manner:

1. along approximately 5,433.4 miles of routes designated as open or limited (see LaPre 2005e for mileage of open routes within habitat of the desert tortoise);

2. along 30.6 miles of routes designated as limited (see LaPre 2005h for mileage of limited routes within habitat of the desert tortoise);

3. within desert wildlife management areas, when camping in previously disturbed areas adjacent to motorized vehicle routes designated as open;

4. within desert wildlife management areas, within 50 feet of the centerline of open routes when stopping and parking; and

5. outside of desert wildlife management areas, within 300 feet of the centerline of open routes when stopping, parking, and camping.

We also consider this exemption to apply to causal use activities that may occur on any lands that the Bureau may acquire, provided that the activities causing the take are in compliance with the Bureau's management direction provided by the California Desert Conservation Area Plan, as amended, and analyzed herein. Note that this exemption may not apply to any desert tortoises that may reside on public lands that are transferred from the management of the Bureau. In such instances, the Service would have to determine whether the exemption would remain in place on a case-by-case basis; the factors we would consider in such cases would include, but not be limited to, any changes in the nature and intensity of use that would result from the transfer.

Livestock Grazing

Incidental take of desert tortoises is likely to occur during activities associated with livestock grazing (but not including new range developments or harm, as defined in the first paragraph of this section) on public lands and intermingled non-federal lands within the boundaries of the following allotments. This incidental take statement exempts incidental take resulting from livestock grazing only on the lands specified in the following table.

Allotment	Acreage of Desert Tortoise Habitat Where Incidental Take Exemption Applies [1]
Bissell	2,360 [4]
Boron	10,868 [4]
Cantil Common (North)	203,567 [2]
Cantil Common (South)	13,000 [2, 4]
Hansen Common	3,709
Johnson Valley	118,297
Lava Mountain	20,902
Monolith-Cantil	12,938 [2]
Ord Mountain	154,547
Rattlesnake Canyon	12,805
Rudnick Common	79,000
Shadow Mountain	16,936 [2, 4]
Spangler Hills	69,141
Stoddard Mountain (East)	86,099 [2]
Stoddard Mountain (Middle)	5,787 [2, 4]
Tunawee Common	1,800
Walker Pass Common	32,058
Total	843,814

[1] Unless otherwise stated, acreages are from the sources cited in the Effects of the Proposed Grazing Program on the Desert Tortoise and its Critical Habitat section of this biological opinion. As we noted previously in this biological opinion, some acreage figures for the same area may vary because of differences of data in GIS coverage.
[2] See attached map. Acreages are from Service (2006).

[3] Total does not include lands managed by the California Department of Fish and Game.
[4] Incidental take exemption applies only to public lands.

Relationship to Incidental Take Statements in Previous Biological Opinions

Through memoranda dated May 17, 1999, and August 3, 2000, the Service (1999b, 2000) extended the incidental take statements that were contained in previous biological opinions for sheep and cattle grazing in the California Desert Conservation Area until such time as the bioregional plans were completed. With the issuance of this biological opinion, this incidental take statement replaces those contained in previous biological opinions regarding livestock grazing for the western Mojave Desert.

This incidental take statement also replaces the incidental take statements contained in the biological opinions for route designation in the western Mojave Desert (Service 2003b) planning area and for management of the planning area described in the Rand Mountains – Fremont Valley Management Plan (Service 1993a). This biological opinion also supercedes the previous biological opinions for the Western Mojave Land Tenure Adjustment Project (Service 1990 and 1998; we re-iterate that, as stated in the later biological opinion, the incidental take statement contained in the 1990 biological opinion is no longer valid.

Effects of the Incidental Take on the Desert Tortoise

All of the activities for which we exempted incidental take have some potential for killing or injuring desert tortoises. Activities such as casual use involving walking, equestrian use, and mining will likely kill or injure very few desert tortoises because these activities are generally low in intensity and scattered over large areas; additionally, because these activities generally involve low speeds, desert tortoises can be seen and avoided.

Stopping and parking within 50 feet of open or limited routes will likely kill few desert tortoises because of the limited area in which this activity will occur, relative to the size of the desert wildlife management areas and considering that terrain and vegetation prohibit this activity in many areas. Camping in disturbed areas will likely kill very few desert tortoises because they are less likely to be in these areas and would be more easily observed in areas that have reduced levels of vegetation.

We anticipate that cattle grazing will directly kill or injure few desert tortoises because livestock attempt to avoid stepping on larger animals; also, this use is dispersed to a large degree, in relation to the distribution of desert tortoises. We acknowledge smaller desert tortoises are at greater risk. Although sheep have the potential to kill more desert tortoises, relatively, than cattle, few desert tortoises are likely to be killed because the vast majority of sheep grazing will occur in areas where they persist in lower numbers. The exemption with regard to livestock grazing does not extend to specific range improvements because the Bureau will need to authorize those on a case-by-case basis or to mortality that may be caused by degradation of habitat; in the latter case, we expect that the Bureau's monitoring and management of livestock use will preclude significant habitat modification or degradation that could result in death or

injury to desert tortoises by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. The Bureau's grazing prescriptions and standards and guidelines are specifically designed to maintain or improve the condition of habitat; therefore, any degradation of habitat that would likely lead to mortality in desert tortoises would be outside the bounds of the proposed action.

Other forms of activities, such as casual use involving vehicles on routes designated as open or limited, and stopping, parking, and camping within 300 feet of such routes, pose the greatest risk to desert tortoises and are likely to kill or injure more animals because these activities can be conducted at greater speeds and involve large areas of the desert. In spite of these facts, we anticipate that relatively few desert tortoises will be killed or injured for several reasons. Many users of the desert will attempt to avoid killing animals with their vehicles. A large portion of the use will occur when desert tortoises are less active; we acknowledge that the periods of heaviest use – the spring and fall – are also when desert tortoises are most likely to be moving longer distances, which puts them at greater risk.

Many of the actions for which we have exempted incidental take are likely to occur in disturbed areas (e.g., camping off roads) or will not, by their nature, cause removal of habitat (e.g., hiking) to the extent that it would result in harm to desert tortoises. We anticipate that grazing and casual use are likely to result in relatively few mortalities of or injuries to desert tortoises.

In conclusion, despite the numerous actions that will occur and have the potential to kill or injure desert tortoises, we anticipate that relatively few desert tortoises will be killed or injured by these activities.

Parish's Daisy, Cushenbury Milk-vetch, and Lane Mountain Milk-vetch

Section 9 of the Act does not address the incidental take of listed plant species. Because the Act does not address the take of listed plant species, this biological opinion does not contain an incidental take statement, reasonable and prudent measures, or terms and conditions for these species.

The Bureau should be aware that the Act prohibits the removal of endangered plants from Federal lands and their reduction to possession, the malicious damaging, or destruction on such lands; by regulation, the Service extended this prohibition to threatened species. Section 9(a)(2)(B) prohibits any person from removing, cutting, digging up, or damaging or destroying individuals of an endangered listed plant species in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law.

REASONABLE AND PRUDENT MEASURE

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize take of the desert tortoise during activities that may result in incidental take that are

directly authorized by adoption of the amendment to the California Desert Conservation Area Plan for the Western Mojave Recovery Unit:

> The Bureau must ensure that the level of incidental take anticipated in this biological opinion is commensurate with the analysis contained herein.

The Service's evaluation of the effects of the proposed action includes consideration of the measures developed by the Bureau and repeated in the Description of the Proposed Action portion of this biological opinion to reduce the adverse effects of grazing and casual use on the desert tortoise. Any subsequent changes in the minimization measures proposed by the Bureau or in the conditions under which cattle grazing currently occurs may constitute a modification of the proposed action and may warrant re-initiation of formal consultation, as specified at 50 *Code of Federal Regulations* 402.16. This reasonable and prudent measure is intended to supplement the protective measures that were proposed by the Bureau as part of the proposed action.

TERMS AND CONDITIONS

To be exempt from the prohibitions of section 9 of the Act, the Bureau must comply with the following term and condition, which implements the reasonable and prudent measure described in the previous section; the Bureau must also comply with the reporting requirements described in the following two sections. This term and condition is non-discretionary.

The following term and condition implements the reasonable and prudent measure:

a. To ensure that the measures proposed by the Bureau are effective and are being properly implemented, the Bureau must contact the Service immediately if it becomes aware that a desert tortoise has been killed or injured by human activities associated with casual use. At that time, the Service and the Bureau must review the circumstances surrounding the incident to determine whether additional protective measures are required. Grazing and casual use may continue pending the outcome of the review, provided that the protective measures contained in the Bureau's proposed action have been and continue to be fully implemented. If, after completion of the review, the Service and Bureau agree that additional protective measures are required, the Bureau must implement the additional measures.

b. If more than three desert tortoises are found dead or injured in any 12-month period as a result of any specific activity or circumstance, the Bureau must contact the Service to determine whether formal consultation should be re-initiated on that aspect of the West Mojave Plan. This threshold is intended to determine whether certain activities or circumstances (e.g., desert tortoises being trapped in cattle guards or killed along one portion of a road) may be affecting desert tortoises more substantially than we anticipated. The threshold would not be used in situations that we would reasonably expect to occur and that have been considered by the Bureau and Service during this consultation (e.g., desert tortoises being consumed by common ravens.)

REPORTING REQUIREMENTS

By January 31 of each year this biological opinion is in effect, the Bureau must provide a report to the Service that provides details on each desert tortoise that is found dead or injured. The report must include information on the location of each mortality, the circumstances of the incident, and any actions undertaken to prevent similar instances from occurring in the future.

We request that the annual report also describe activities that the Bureau implemented (e.g., the amount of road maintained, habitat restored, etc.) to recover the desert tortoise in the previous year. We also request that your annual report include information on any activities that the Bureau undertakes that may have adversely affected or benefited the listed plant species under consideration in this biological opinion.

DISPOSITION OF DEAD OR INJURED DESERT TORTOISES

Within 3 days of locating a desert tortoise that may have been killed or injured as a result of causal use, you must notify the Service's Division of Law Enforcement (370 Amapola Avenue, Suite 114, Torrance, California 90501) and the Ventura Fish and Wildlife Office by telephone (805 644-1766) and by facsimile (805 644-3958). The report must include the date, time, and location of the carcass, a photograph, cause of death, if known, and any other pertinent information.

Injured desert tortoises must be taken to a qualified veterinarian for treatment. If any injured desert tortoises survive, the Service must be contacted regarding their final disposition.

Care must be taken in handling dead specimens to preserve biological material in the best possible state for later analysis. The remains of desert tortoises must be placed with the U.S. Geological Survey (Contact: Kristin Berry, U.S. Geological Survey, 22835 Calle San Juan De Los Lagos, Moreno Valley, California 92553, (951-697-5361); if the U.S. Geological Survey does not want the carcass because the damage is too extensive, the carcass must be disposed of in an appropriate manner. We recommend that the Bureau maintain a standing arrangement with the U.S. Geological Survey regarding proper disposition of carcasses and ensure that its field offices are well aware this and other procedures regarding the disposition of dead or injured desert tortoises.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. We offer the following conservation recommendations for your consideration:

Casual Use. The Bureau should provide information on the desert tortoise, its status, the protection it receives under the Endangered Species Act, and the actions that can be taken to avoid killing or injuring desert tortoises when working or recreating in the desert to anyone requesting information on casual use associated with recreation and mining or on other programs that it administers. This information may be in the form of literature prepared specifically for this purpose or other general educational materials related to the desert tortoise's status as a threatened species.

Law Enforcement Rangers and Maintenance Personnel. The Bureau notes, in the final environmental impact report and statement, that two law enforcement rangers and two maintenance personnel would be assigned to the habitat conservation areas to ensure their proper management. An increase in the presence of Bureau employees in desert wildlife management areas may greatly enhance the likelihood that the conservation strategies being proposed in the West Mojave Plan can be successfully implemented. In the absence of Bureau staff in the field, we sense that the public will not view the habitat conservation areas any differently than it does currently. We recognize the difficulties that agencies experience with guaranteeing staffing and funding and the particular issues associated with keeping rangers in the desert year-round; however, the Bureau's on-the-ground presence is probably the most essential element in implementing the conservation strategies in a successful manner. Consequently, we encourage the Bureau to investigate every avenue to ensure that a sufficient number of law enforcement rangers and maintenance personnel are assigned to the desert wildlife management areas to ensure compliance with the provisions of the West Mojave Plan; we also encourage the Bureau to assign these personnel in a manner that ensures an in-the-field presence on a year-round basis, with particular emphasis during periods of heavy public use.

Commercial Activities. We recommend that the Bureau provide higher priority to the conservation of listed and other sensitive species than to commercial activities, such as filming. That is, we recommend that conflicts between listed or sensitive species and commercial activities that can be conducted in areas without such resources be resolved in favor of the biological resources.

Abandoned Adits and Mines. The Bureau should inspect any abandoned mine or adit it discovers to determine whether desert tortoises could be trapped. Any such mines or adits should be filled or fenced to preclude entry by desert tortoises.

Indirect Effects of Mining and Other Human Activities. We encourage the Bureau to support research and work with others to determine if dust from mines, agricultural fields, the edges of roads, and disturbed playas is affecting the health status of desert tortoises.

Research Related to Grazing. The Bureau proposed to conduct a study of the nutritional ecology of the desert tortoise in relation to livestock grazing. We recommend that the design of any such study be developed in coordination with the Service and the U.S. Geological Survey to ensure that it addresses the most relevant issues in the most effective manner. We also strongly recommend that the Bureau assess the current condition of allotments from which grazing has

recently been removed and monitor the changes in habitat conditions in those allotments over time.

Johnson to Parker Race Events. We recommend that the Bureau coordinate with us early in the planning process if an application for this event is proposed. The Bureau should limit the event to times of the year when desert tortoises are less likely to travel widely; it should also ensure the riders remain on designated roads, particularly within the Pisgah Conservation Area to protect desert tortoises and the white-margined beardtongue (*Penstemon albomarginatus*), which is a sensitive plant species found in that area of the California desert.

Extended Fee Program. We recommend that the Bureau adopt a fee program for recreational use of public lands in the California Desert Conservation Area. To the best of our knowledge, users pay some form of fee to use most other recreational lands in southern California. Mandatory fees on adjacent lands likely assist in funding the management of those lands and possibly assist in directing recreational use to lands managed by the Bureau. We suggest that, as an initial strategy, the Bureau establish mandatory fees for organized events and a voluntary system for casual users.

Shooting. We recommend that the Bureau prohibit target shooting in all conservation areas, including the desert wildlife management areas. Although the number of desert tortoises that are likely to be shot accidentally or intentionally is likely a small proportion of the population, preventing the loss of even a small number of individuals in a declining population may be important for the overall recovery of the species.

Please notify us if you implement any conservation recommendations so we may be kept informed of actions that minimize or avoid adverse effects to listed species or their habitats and promote their recovery.

REINITIATION NOTICE

This concludes formal consultation on the proposed amendment of the western Mojave Desert portion of the California Desert Conservation Area Plan. Reinitiation of formal consultation is required where discretionary federal involvement or control over the action has been retained or is authorized by law and: (a) if the amount or extent of taking specified in the incidental take statement is exceeded; (b) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (c) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or (d) if a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions regarding this biological opinion, please contact Ray Bransfield of my staff at (805) 644-1766, extension 317.

Attachments

REFERENCES CITED

Ahrens, M. 2005. Personal communication. Level of use of the 300-foot zone for stopping, parking, and camping. Dated August 9, 2005. Outdoor Recreation Planner, Barstow Field Office, Bureau of Land Management. Barstow, California.

Avery, H.W. 1998. Nutritional ecology of the desert tortoise (*Gopherus agassizii*) in relation to cattle grazing in the Mojave Desert. Ph.D. Dissertation, Department of Biology, University of California, Los Angeles. California.

Avery, H.W., and A.G. Neibergs. 1997. Effects of cattle grazing in the desert tortoise, *Gopherus agassizii*: nutritional and behavioral interactions. In: *Proceedings*: *Conservation, Restoration, and Management of Tortoises and Turtles - An International Conference*, pp. 13-20. New York Turtle and Tortoise Society.

Bagley, M. 1989. Sensitive plant species survey on a portion of the proposed Fort Irwin National Training Center expansion area, San Bernardino County, California. Report to U.S. Army Corps of Engineers, Los Angeles, California. Michael Brandman Associates. Santa Ana, California.

Barneby, R.C. 1964. Atlas of North American *Astragalus*. Memoirs of the New York Botanical Garden 13:1-1188.

Beck, C. 2005. Personal communication. Level of use of the 300-foot zone for stopping, parking, and camping. Dated August 8, 2005. Outdoor Recreation Planner, Ridgecrest Field Office, Bureau of Land Management. Ridgecrest, California.

Berry, K.H. 1999. Preliminary report from the 1999 spring survey of the desert tortoise long-term study plot in Chemehuevi Valley and Wash, California. Box Springs Field Station, Western Ecological Research Center, U.S. Geological Survey. Riverside, California.

Berry, K.H. 2000. Preliminary report on the spring survey of desert tortoises at Goffs permanent study plot. Box Springs Field Station, Western Ecological Research Center, U.S. Geological Survey. Riverside, California.

Berry, K.H. 2003. Protocol. Salvaging injured, recently dead, ill, and dying wild, free-roaming desert tortoises (*Gopherus agassizii*). Prepared for U.S. Fish and Wildlife Service permit TE006556-12. U.S. Geological Survey. Moreno Valley, California.

Boarman, W.I. 2002. Threats to desert tortoise populations: a critical review of the scientific literature. Western Ecological Research Center, U.S. Geological Survey. Riverside, California.

Boarman, W.I., and M. Sazaki. 1996. Highway mortality in desert tortoises and small vertebrates: success of barrier fences and culverts. In G. J. Evink, P. Garrett, D. Zeigler, and J. Berry (eds.), *Trends in addressing transportation related wildlife mortality. Proceedings of the transportation related wildlife mortality seminar.* Environmental Management Office, Department of Transportation, Tallahassee, Florida.

Boarman, W.I., M.L. Beigel, G.C. Goodlett, and M. Sazaki. 1998. A passive integrated transponder system for tracking animal movements. Wildlife Society Bulletin 26:886-891.

Brandt, C.A., W.H. Rickard and N.A. Cadoret. 1997. Vegetation studies: National Training Center, Fort Irwin, California. Report for U.S. Army National Training Center, Fort Irwin, California. PNNL-11697. Pacific Northwest National Laboratory. Richland, Washington.

Brown, H. 2003. Personal communication. Geologist. Omya, Inc. Lucerne Valley, California.

Burge, B.L. 1978. Physical characteristics and patterns of utilization of cover sites by *Gopherus agassizii* in southern Nevada. Proceedings of the 1978 Symposium, Desert Tortoise Council.

Burge, B.L., and W.G. Bradley. 1976. Population density, structure and feeding habits of the desert tortoise, *Gopherus agassizii*, in a low desert study area in southern Nevada. Proceedings of the 1976 Symposium, Desert Tortoise Council.

Burroughs, M. 2005. Electronic mail. Information on recent fires in desert tortoise habitat. Dated August 9. Fish and wildlife biologist, Fish and Wildlife Service. Las Vegas, Nevada.

Chaffee, M.A., and K.H. Berry. 1999. The search for sources of potential toxicants in desert tortoises: results of a pilot project incorporating surficial materials and plants from three areas in southeastern California. Abstract of paper presented at the Twenty-fourth Annual Meeting and Symposium of the Desert Tortoise Council. Http://www.deserttortoise.org/abstracts1999/sgabs6.html

Charis Professional Services Corporation. 2002. Distribution and Abundance of Lane Mountain Milk-vetch (*Astragalus jaegerianus*). Prepared for U.S. Army National Training Center, Fort Irwin, California. Temecula, California.

Charis Professional Services Corporation. 2003. Biological assessment for the proposed addition of maneuver training land at Fort Irwin, California. Prepared for the U.S. Army National Training Center, Fort Irwin, California. Temecula, California.

Chavez, R. 2003. Electronic mail. Status of the Limeade and Lost Springs Claim. Rangeland Management Specialist, Barstow Field Office, Bureau of Land Management. Barstow, California.

Chavez, R. 2004. Electronic mail. Valley Well Allotment. Rangeland Management Specialist, Barstow Field Office, Bureau of Land Management. Barstow, California.

Chavez, R. 2005a. Electronic mail. Acreage of desert tortoise critical habitat grazed within the Shadow Mountain Allotment. Rangeland Management Specialist, Barstow Field Office, Bureau of Land Management. Barstow, California.

Chavez, R. 2005b. Electronic mail. Acreage of desert tortoise critical habitat grazed within the Cantil Common Allotment. Rangeland Management Specialist, Barstow Field Office, Bureau of Land Management. Barstow, California.

Chavez, R. 2005c. Electronic mail. Clarification of rangeland health assessment for the Ord Mountain Allotment. Rangeland Management Specialist, Barstow Field Office, Bureau of Land Management. Barstow, California.

Chavez, R. 2005d. Electronic mail. Acreage of desert tortoise critical habitat and public lands within the Ord Mountain Allotment. Rangeland Management Specialist, Barstow Field Office, Bureau of Land Management. Barstow, California.

Chavez, R. 2005f. Electronic mail. Acreage of land ownership and desert tortoise habitat within the Johnson Valley Allotment. Dated December 1. Rangeland Management Specialist, Barstow Field Office, Bureau of Land Management. Barstow, California.

Collis, S. 2005. Personal communication regarding activities and acreages of disturbed areas within critical habitat of the desert tortoise at Edwards Air Force Base. Biologist, Air Force Flight test Center. Edwards Air Force Base, California.

Congdon, J.D., A.E. Dunham, and R.C. Van Loben Sels. 1993. Delayed sexual maturity and demographics of Blanding's turtles (*Emydoidea blandingii*): implications for conservation and management of long-lived organisms. Conservation Biology 7:826-833.

DeFalco, L.A., J.K. Detling, C.R. Tracy, and S.D. Warren. 2001. Physiological variation among native and exotic winter annual plants associated with microbiotic crusts in the Mojave Desert. Plant and Soil 234:1-14.

Desert Tortoise Council. 1999. Guidelines for handling desert tortoises during construction projects. Wrightwood, California.

Edwards Air Force Base. 2004. Integrated natural resources management plan for Edwards Air Force Base, California. Edwards Air Force Base 32-7064. September update. Edwards Air Force Base, California.

Eliason, S. 2003a. Personal communication; confirmation of information in San Bernardino National Forest GIS database. Botanist. Mountaintop District, San Bernardino National Forest. Fawnskin, California.

Eliason, S. 2003b. Personal communication; table provided by electronic mail, dated June 23. Botanist. Mountaintop District, San Bernardino National Forest. Fawnskin, California.

Foreman, L. 2003. Personal communication; comments on portions of a draft biological opinion. District biologist. California Desert District Office, Bureau of Land Management. Moreno Valley, California.

Garrett, K, and J. Dunn. 1981. Birds of Southern California; Status and Distribution. Los Angeles Audubon Society. Los Angeles, California.

Gonzales, R. 2004. Personal communication. March 30. Reality specialist, Barstow Field Office, Bureau of Land Management. Barstow, California.

Heaton, J.S., A. Karl, K. Nussear, R. Inman, and C. Everly. 2004. Estimation of numbers of desert tortoises in the additional training lands at Fort Irwin and the Western Mojave Recovery Unit. Unpublished calculations.

Hessing, M. 2004. Personal communication. Botanist, Charis Professional Services Corporation. Temecula, California.

Hopkins, C. 2004. Lane Mountain milk-vetch (*Astragalus jaegerianus* Munz) pollinator study - progress report for the April 2004 field season. Prepared for the Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, Ventura, California. Xeric Specialties Consulting, Ridgecrest.

Hovik, D.C., and D.B. Hardenbrook. 1989. Summer and fall activity and movements of desert tortoises in Pahrump Valley, Nevada. Abstract of paper presented at Fourteenth Annual Meeting and Symposium of the Desert Tortoise Council.

Kernek, P. 2005. Personal communication. Status of land acquisitions for the Fort Irwin project in the western Mojave Desert. Planner, Charis Corporation. Barstow, California.

Knight, R.L., R.J. Camp, W.I. Boarman, and H.A.L. Knight. 1999. Predatory bird populations in the East Mojave Desert, California. Great Basin Naturalist 59:331-338.

LaPre, L. 2004a. Electronic mail. Clarification of collection of draft environmental impact report and statement with regard to seeds and propagules. District wildlife Biologist, California Desert District. Moreno Valley, California.

LaPre, L. 2004b. Electronic mail. Changes in multiple-use classes in non-wilderness areas. District wildlife Biologist, California Desert District. Moreno Valley, California.

LaPre, L. 2005a. Electronic mail. General characterization of critical habitat in the Ord-Rodman Critical Habitat Unit. Summary of information from the West Mojave Plan. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005b. Electronic mail. Reporting methodology for grazing activities in the western Mojave Desert. Dated May 20. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005c. Electronic mail. Calculation of amount of disturbed habitat in the planning area. Dated February 23. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005d. Electronic mail. GIS calculations of land ownership within critical habitat units in the western Mojave Desert. Dated March 17. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005e. Electronic mail. Explanation of the mileage of open routes in the planning area. Dated July 11. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005f. Electronic mail. Catellus and other land acquisitions. Dated March 1. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005g. Electronic mail. Explanation of yellow flag conditions during vehicle races. Dated May 4. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005h. Electronic mail. Explanation of the mileage of limited routes in the planning area. Dated July 11. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005i. Electronic mail. Status of least Bell's vireos at the Big Morongo Canyon Area of Critical Environmental Concern. Dated May 26. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005j. Electronic mail. Current acreages and ownership status of livestock allotments. Dated August 11. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005m. Personal communication. Current acreages and ownership status within the Monolith-Cantil Allotment. Dated August 16. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005n. Personal communication. Acreage of private land within the Spangler Hills Allotment. Dated August 15. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005q. Electronic mail. Miles of closed trails protected by the restoration sites in the Western Rand Mountain Area of Critical Environmental Concern. Dated November 17. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2005r. Electronic mail. Acreage of various allotments. Dated December 9. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

LaPre, L. 2006. Personal communication. Status of Western Stoddard Allotment. Dated January 4. District Wildlife Biologist, California Desert District, Bureau of Land Management. Moreno Valley, California.

Lee and Ro Consulting Engineers. 1986. Endangered and sensitive species survey and deficiency tabulation, Fort Irwin National Training Center and Goldstone Space Communications Complex. Contract No. DACA09-84-C-0097. Report for Director of Engineering and Housing, Fort Irwin, National Training Center. Fort Irwin, California.

Lovich, J.E., and D. Bainbridge. 1999. Anthropogenic degradation of the southern California desert ecosystem and prospects for natural recovery and restoration. Environmental Management 24:309-326.

Luckenbach, R.A. 1982. Ecology and management of the desert tortoise (*Gopherus agassizii*) in California. *In*: R.B. Bury (ed.). North American Tortoises: Conservation and Ecology. U.S. Fish and Wildlife Service, Wildlife Research Report 12, Washington, D.C.

McEwan, J. Undated. West Rand Mountains Area of Critical Environmental Concern: Interim Motorized Vehicle Use Closure. Summary Report of Monitoring from August 2002 to March 2003. Prepared by Anteon Corporation for the Ridgecrest Field Office, Bureau of Land Management. Ridgecrest, California.

Natural Resources and Environmental Affairs Division. 2001. Integrated natural resources management plan and environmental assessment. Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center. Twentynine Palms, California.

Oftedal, O.T. 2001. Low rainfall affects the nutritive quality as well as the total quantity of food available to the desert tortoise. Abstract of paper presented at the Twenty-sixth Annual Meeting and Symposium of the Desert Tortoise Council. Http://www.deserttortoise.org/abstracts2001/2001abs29.html

O'Gara, J. 2005. Electronic mail. Navy activities and acreages of disturbed areas within critical habitat of the desert tortoise at the Naval Air Weapons Station, China Lake. Environmental Project Office, Naval Air Weapons Station. China Lake, California.

Olson, T.G. 2003. Carbonate habitat management strategy. Prepared for the San Bernardino National Forest Association. Fawnskin, California.

Oviatt, L. 2005. Electronic mail. Cumulative effects in Kern County. Planning Department. County of Kern. Bakersfield, California.

Pratini, N. 2004. Personal communication. GIS database manager, California Desert District. Moreno Valley, California.

Pratini, N. 2005. Electronic mail. Critical habitat area affected by stopping and parking. Dated June 26. GIS database manager, California Desert District. Moreno Valley, California.

Prigge, B.A., M.R. Sharifi, and D. Morafka. 2000. Lane Mountain milk-vetch surveys (progress report III). Prepared for the Department of Defense, Fort Irwin. Dominguez Hills Foundation, Carson, California.

Sansonetti, N. 2004. Electronic mail. Cumulative effects with regard to desert tortoise. Planner, County of San Bernardino. Victorville, California.

Sansonetti, N. 2005. Electronic mail. Cumulative effects with regard to Parish's daisy and Cushenbury milk-vetch. Planner, County of San Bernardino. Victorville, California.

Schamberger, M., and F.B. Turner. 1986. The application of habitat modeling to the desert tortoise (*Gopherus agassizii*). Herpetologica 42(1):134-138.

Schulte, K. 2005a. Electronic mail. Acreage of mining claims in the Coolgardie Mesa area. Dated July 22. Minerals specialist, Barstow Field Office, Bureau of Land Management. Barstow, California.

Schulte, K. 2005b. Electronic mail. Final acreage of mining claims in the Coolgardie Mesa area. Dated July 26. Minerals specialist, Barstow Field Office, Bureau of Land Management. Barstow, California.

Science Applications International Corporation. 2003. Lane Mountain milk-vetch data. Memorandum to Marcia Wertenberger. Dated October 1. Santa Barbara, California.

Sharifi, M.R., B. Prigge, and P.W. Rundel. 2003. Annual report I: seed germination, seedling growth, and seedling survival of Land Mountain milk-vetch (*Astragalus jaegerianus* Munz). Prepared as part of U.S. Fish and Wildlife Service permit no. TE026656-1. Department of Organismic Biology, Ecology and Evolution, University of California, Los Angeles. Los Angeles, California.

Sharifi, M.R, B. Prigge, and P.W. Rundel. 2004. Annual report I: El Nino events as a seedling establishment and soil seed bank cue for Lane Mountain milk-vetch (*Astragalus jaegerianus* Munz). Prepared for Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, Ventura, California., as part of U.S. Fish and Wildlife Service permit no. TE026656-1. Department of Organismic Biology, Ecology and Evolution, University of California, Los Angeles. Los Angeles, California.

Shumway, D. 2003. Personal communication. Geologist. Mitsubishi Cement Corporation. Lucerne Valley, California.

Sjaastad, D. 2005a. Electronic mail. Grazing patterns within the Hansen Common Allotment. Dated August 15. Rangeland Management Specialist, Ridgecrest Field Office, Bureau of Land Management. Ridgecrest, California.

Sjaastad, D. 2005b. Electronic mail. Land ownership within the Spangler Hills Allotment. Dated August 10. Rangeland Management Specialist, Ridgecrest Field Office, Bureau of Land Management. Ridgecrest, California.

Sjaastad, D. 2005c. Electronic mail. Land ownership within the Rudnick Common, Walker Pass, and Spangler Hills allotments. Dated December 12. Rangeland Management Specialist, Ridgecrest Field Office, Bureau of Land Management. Ridgecrest, California.

Smith, C. 2004. Personal communication. Planning Department. County of Inyo. Independence, California.

Threloff, D. 2003. Personal communication, via electronic mail. Fish and wildlife biologist. Ventura Fish and Wildlife Office, Fish and Wildlife Service. Ventura, California.

Tracy, C.R., R. Averill-Murray, W.I. Boarman, D. Delehanty, J. Heaton, E. McCoy, D. Morafka, K. Nussear, B. Hagerty, and P. Medica. 2004. Desert Tortoise Recovery Plan Assessment. Prepared for the U.S. Fish and Wildlife Service. Reno, Nevada.

Turner, F.B., and D.E. Brown. 1982. Sonoran desertscrub. In: D.E. Brown (editor). Biotic communities of the American Southwest - United States and Mexico. Desert Plants 4(1-4):181-222.

U.S. Bureau of Land Management. 1999. The California Desert Conservation Area Plan 1980, as amended. California Desert District. Riverside, California.

U.S. Bureau of Land Management. 2001. Biological evaluation on effects of CDCA Plan, as amended, and proposed to be amended by the NEMO and NECO preferred alternatives and with other interim measures on desert tortoise. California Desert District. Riverside, California.

U.S. Bureau of Land Management. 2002a. Comments on draft biological opinion for the California Desert Conservation Area Plan [Lane Mountain milk-vetch, Ash Meadows gumplant, and Amargosa niterwort] (1-8-01-F-18) (6840(P) CA-930). Memorandum to Field Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, Ventura, California. Dated February 15. From State Director. Sacramento, California.

U.S. Bureau of Land Management. 2002b. Proposed Northern and Eastern Mojave Desert management plan record of decision, amendment to the California Desert Conservation Area Plan 1980. Riverside, California.

U.S. Bureau of Land Management. 2002c. Northern and Eastern Mojave Desert management plan, amendment to the California Desert Conservation Area Plan 1980, and final environmental impact statement. Riverside, California.

U.S. Bureau of Land Management. 2003a. Environmental assessment and draft California Desert Conservation Area Plan amendment. Western Mojave Desert off road vehicle designation project. California Desert District. Moreno Valley, California.

U.S. Bureau of Land Management. 2003b. Map. Total corrected tortoise sign (TCS) distribution (1998-2002). Dated December 12. Moreno Valley, California.

U.S. Bureau of Land Management. 2003c. Initiation of formal section 7 consultation and conference on West Mojave Plan (CA-63.50 1510(P)). Memorandum to Office Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, Ventura, California. Dated July 15. From District Manager. Moreno Valley, California.

U.S. Bureau of Land Management. 2003d. Request for concurrence on designation of routes of travel for the western Mojave Desert (6842 (CA-063.50)). Memorandum to Field Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, Ventura, California. Dated March 17. From District Manager. Moreno Valley, California.

U.S. Bureau of Land Management. 2003e. Request for concurrence on designation of routes of travel for the western Mojave Desert – addendum (6842 (CA-063.50)). Memorandum to Field Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, Ventura, California. Dated April 7. From District Manager. Moreno Valley, California.

U.S. Bureau of Land Management. 2003f. Map. Lane Mountain Milk-vetch Conservation Area. Dated August 28. Moreno Valley, California.

U.S. Bureau of Land Management. 2004a. Request for formal conference concerning effects of the proposed California Desert Conservation Area Plan amendment for the west Mojave planning area on proposed critical habitat for Lane Mountain milk-vetch (CA610 6840(P)). Memorandum to Field Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, Ventura, California. Dated August 20. From District Manager. Moreno Valley, California.

U.S. Bureau of Land Management. 2004b. Map. Ord Mountain Grazing Allotment: Elevation above 4,000 feet. Dated October 28. Produced by California Desert District. Moreno Valley, California.

U.S. Bureau of Land Management. 2004c. Electronic mail. Actual use and utilization for the Ord Mountain Allotment. Produced by California Desert District. Moreno Valley, California.

U.S. Bureau of Land Management. 2005a. Revisions to term and condition number 1 of biological opinion on the effects of the California Desert Conservation Area Plan on the desert tortoise. (1-8-01-F-16) (CA610 1510 (P)). Memorandum to Office Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, Ventura, California. Dated March 17. From District Manager, California Desert District. Moreno Valley, California.

U.S. Bureau of Land Management. 2005b. GIS calculation of areas of critical habitat of Parish's daisy and Cushenbury milk-vetch managed by the Bureau within the Carbonate area of critical environmental concern. Desert District, Bureau of Land Management. Moreno Valley, California.

U.S. Bureau of Land Management. 2005c. Review of draft biological opinion on the West Mojave Plan. Memorandum to Field Supervisor, Ventura Fish and Wildlife Office, U.S. Fish and Wildlife Service, Ventura, California. Dated November 4. From District Manager, California Desert District. Moreno Valley, California.

U.S. Bureau of Land Management, County of San Bernardino, and City of Barstow. 2003. Draft environmental impact report and statement for the West Mojave Plan; a habitat conservation plan and California Desert Conservation Area Plan amendment. Moreno Valley, San Bernardino, and Barstow, California.

U.S. Bureau of Land Management, County of San Bernardino, and City of Barstow. 2005. Final environmental impact report and statement for the West Mojave Plan; a habitat conservation plan and California Desert Conservation Area Plan amendment. Moreno Valley, San Bernardino, and Barstow, California.

U.S. Department of the Army. 2004. Letter to U.S. Fish and Wildlife Service, Ventura Fish and Wildlife Office providing an addendum to the biological assessment. Dated February 25. From Colonel Edward L. Flinn, Deputy Commander and Chief of Staff, National Training Center. Fort Irwin, California.

U.S. Fish and Wildlife Service. 1990. Biological opinion for Western Land Tenure Adjustment Project (2000 (DoD) (CA-931.1)) (1-6-90-F-10). Dated September 4. Memorandum from Office Supervisor, Southern California Field Station to State Director, Bureau of Land Management, Sacramento, California. Ventura, California.

U.S. Fish and Wildlife Service. 1992a. Biological opinion for the proposed desert tortoise habitat management plan for the Naval Air Weapons Station, China Lake, California (5090 Ser 008/C0808/1309) (1-6-92-F-60). Dated December 3. From Acting Field Supervisor, Ventura Field Office to Thomas Mc Gill, U.S. Navy, China Lake, California. Ventura, California.

U.S. Fish and Wildlife Service. 1992b. Biological opinion for cattle grazing along the eastern slopes of the Sierra Nevada Range of California (CA-063.50, 1-6-92-F-55). From Acting Field Supervisor, Southern California Field Station to State Director, Bureau of Land Management. Carlsbad, California.

U.S. Fish and Wildlife Service. 1992c. Biological opinion for the Rand Mountains - Fremont Valley Management Plan (1-6-90-F-54). Dated February 18. From Field Supervisor, Southern California Field Station to State Director, Bureau of Land Management. Carlsbad, California.

U.S. Fish and Wildlife Service. 1993a. Biological opinion for the Rand Mountains - Fremont Valley Management Plan (1-6-90-F-54R). Dated March 10. From Field Supervisor, Ventura Field Office to State Director, Bureau of Land Management. Ventura, California.

U.S. Fish and Wildlife Service. 1993b. Biological opinion for cattle grazing on 24 allotments in the Mojave Desert, Riverside and San Bernardino Counties, California (1-6-92-F-19). Dated July 13. From Field Supervisor, Ventura Field Office to State Director, Bureau of Land Management. Ventura, California.

U.S. Fish and Wildlife Service. 1994a. Biological opinion for the Bureau of Land Management's interim livestock grazing program in Mojave Desert tortoise critical habitat (1-5-94-F-107). Dated April 20. Memorandum from Regional Director, Region 1 to State Director, Bureau of Land Management, Sacramento, California. Portland, Oregon

U.S. Fish and Wildlife Service. 1994b. Biological opinion for cattle grazing on 25 allotments in the Mojave Desert, Riverside and San Bernardino Counties, California (1-8-94-F-17). Memorandum from Field Supervisor, Ventura Field Office to State Director, Bureau of Land Management, Sacramento, California. Dated March 14. Ventura, California.

U.S. Fish and Wildlife Service. 1994c. Desert tortoise (Mojave population) recovery plan. Portland, Oregon.

U.S. Fish and Wildlife Service. 1994d. Biological opinion for ephemeral sheep grazing in the California Desert District (6840 CA-932.5) (1-8-94-F-16). Memorandum from Field Supervisor, Ventura Field Office to State Director, Bureau of Land Management, Sacramento, California. Dated March 15. Ventura, California.

U.S. Fish and Wildlife Service. 1995. Reinitiation of formal consultation for the desert tortoise habitat management plan for the Naval Air Weapons Station, China Lake, California (5090 Ser 823EOOD C8305) (1-8-95-F-30R). Dated June 27. From Field Supervisor, Ventura Field Office to Carolyn Shepherd, U.S. Navy, China Lake, California. Ventura, California.

U.S. Fish and Wildlife Service. 1998. Biological Opinion for Western Mojave Land Tenure Adjustment Project (6844440 (CA-063.50)) (1-8-98-F-60R). Dated September 10. From Field Supervisor, Ventura Fish and Wildlife Office to District Manager, California Desert District, Bureau of Land Management, Riverside, California, Ventura, California.

U.S. Fish and Wildlife Service. 1999a. Biological opinion for a proposed limestone quarry mine on R. Hutcheson's Limeade and Lost Springs Claim, San Bernardino County, California [3809(P) CACA 20339-40 & 20337-38 (CA-680.33)] (1-8-99-F-77). Memorandum to District Manager, Bureau of Land Management, Riverside, California. Dated September 30. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 1999b. Livestock grazing activities in the California desert involving the desert tortoise (6840(P) (CA-610)). Memorandum to District Manager, Bureau of Land Management, Riverside, California. Dated May 17. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2000. Extension of biological opinions 1-6-92-F-55, 1-8-94-F-17, and 1-5-96-F-29R for livestock grazing in the California desert, Riverside and San Bernardino Counties. Memorandum to District Manager, Bureau of Land Management, Riverside, California. Dated August 3. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2002a. Biological opinion for the California Desert Conservation Area Plan [desert tortoise] (6840(P) CA-063.50) (1-8-01-F-16). Memorandum to State Director, Bureau of Land Management, Sacramento, California. Dated June 17. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2002b. Endangered species consultation on the effects of the California Desert Conservation Area Plan on the southwestern willow flycatcher, least Bell's vireo, and arroyo toad. FWS-ERIV-2600.02. Memorandum to State Director, Bureau of Land Management, Sacramento, California. Dated December 17. From Assistant Field Supervisor, Carlsbad Fish and Wildlife Office. Carlsbad, California.

U.S. Fish and Wildlife Service. 2002c. Biological opinion for the California Desert Conservation Area Plan [Lane-Mountain milk-vetch, Ash Meadows gumplant, and Amargosa niterwort] (6840(P) CA-063.50) (1-8-01-F-18). Memorandum to State Director, Bureau of Land Management, Sacramento, California. Dated February 27. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2003a. Biological opinion for the designation of routes of travel in the western Mojave Desert, California (6842 CA-063.50) (1-8-03-F-21). Memorandum to District Manager, Bureau of Land Management, Moreno Valley, California. Dated June 30. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2003b. Biological opinion for the California Desert Conservation Area Plan [Parish's daisy, Cushenbury buckwheat, Cushenbury milk-vetch, Cushenbury oxytheca] (6840(P) CA-063.50) (1-8-01-F-68). Memorandum to State Director, Bureau of Land Management, Sacramento, California. Dated September 25. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2003c. California Desert Conservation Area Plan [Inyo California towhee, bald eagle, mountain plover, Yuma clapper rail, Mohave tui chub] (6840(P) CA-063.50). Memorandum to State Director, Bureau of Land Management, Sacramento, California. Dated October 17. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2004a. Biological opinion for the proposed addition of maneuver training lands at Fort Irwin, California (1-8-03-F-48). Letter to Colonel Edward Flynn, Fort Irwin, California. Dated March 15. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2004b. Internal draft of a proposed rule. Endangered and threatened wildlife and plants; proposed designation of critical habitat for *Astragalus jaegerianus* (Lane Mountain milk-vetch). Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2004c. Biological opinion for the DARPA Grand Challenge Event, San Bernardino County, California, and Clark County, Nevada (1-8-04-F-7). Letter to Colonel Jose A. Negron, Defense Advanced Research Projects Agency, Arlington, Virginia. Dated February 28. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2005a. GIS calculation of acreages of critical habitat units within the action area of the biological opinion for the California Desert Conservation Area Plan (desert tortoise). Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2005b. Formal section 7 consultation on the Carbonate Habitat Management Strategy, San Bernardino County, California (1-6-05-F-4319). Letter to Gene Zimmerman, Forest Supervisor, San Bernardino National Forest, San Bernardino, California, and Linda Hansen, District Manager, Bureau of Land Management, Moreno Valley, California. Dated April 6. From Karen A. Goebel, Assistant Field Supervisor, U.S. Fish and Wildlife Service. Carlsbad, California.

U.S. Fish and Wildlife Service. 2005c. Biological opinion for the California Desert Conservation Area Plan [desert tortoise] (6840 CA930(P)) (1-8-04-F-43R). Memorandum to District Manager, Bureau of Land Management, Moreno Valley, California. Dated March 31. From Field Supervisor, Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2005d. GIS calculation of area of desert tortoise critical habitat managed by the Bureau that was not included within desert wildlife management areas. Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2005e. GIS calculation of area of Lane Mountain milk-vetch habitat acquired by the Department of Defense. Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2005f. GIS calculation of areas of land managed by the Bureau within desert wildlife management areas. Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2005g. GIS calculation of acreage of critical habitat within the western Mojave Desert planning area. Ventura Fish and Wildlife Office. Ventura, California.

U.S. Fish and Wildlife Service. 2006. GIS calculation of acreage of public and non-federal lands within livestock allotments in the western Mojave Desert planning area. Ventura Fish and Wildlife Office. Ventura, California.

U.S. Forest Service and Bureau of Land Management. 2004. Programmatic biological assessment for the Carbonate Habitat Management Strategy. San Bernardino and Moreno Valley, California.

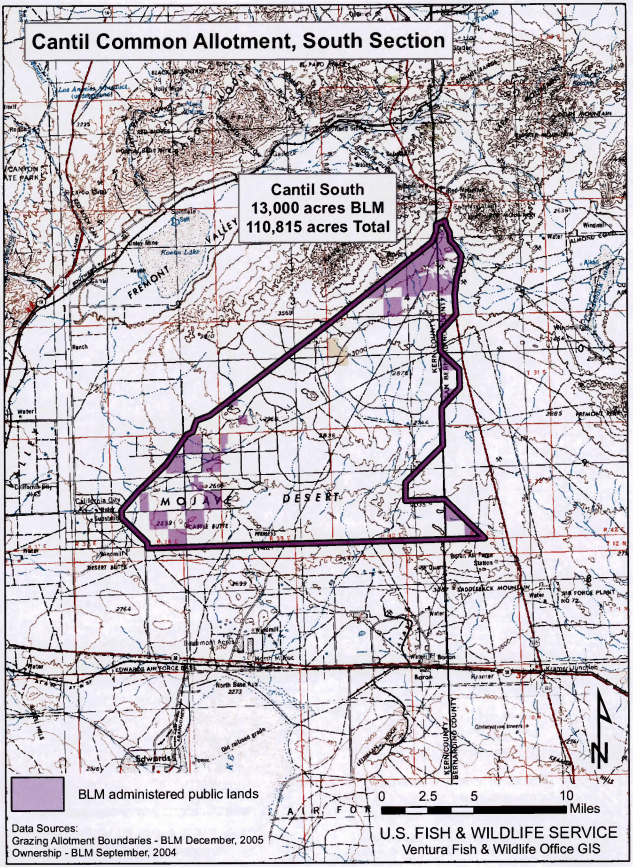
U.S. Navy. 1995. Annual report for desert tortoise management issues at the Naval Air Weapons Station, China Lake. Dated December 21. China Lake, California.

U.S. Navy. 2001. Annual report for desert tortoise management issues at the Naval Air Weapons Station, China Lake. Dated January 3. China Lake, California.

U.S. Navy. 2002. Annual report for desert tortoise management issues at the Naval Air Weapons Station, China Lake. Dated January 9. China Lake, California.

Weinstein, M., K.H. Berry, and F.B. Turner. 1987. An analysis of habitat relationships of the desert tortoise in California. A report to Southern California Edison Company. Rosemead, California.

Wijayratne, U.C., L.A. DeFalco, and S.J. Scoles. 2005. Effects of anthropogenic dust deposition on Lane Mountain milk-vetch (*Astragalus jaegerianus*). Annual report for permit TE-022630-1. U.S. Geological Survey. Sacramento, California.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Data Sources:
Grazing Allotment Boundaries - BLM December, 2005
Ownership - BLM September, 2004
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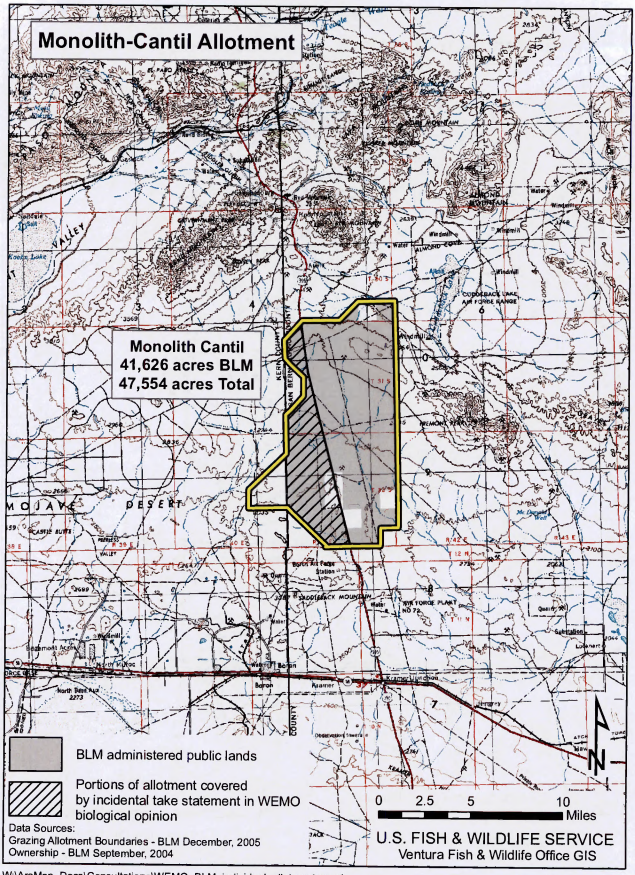

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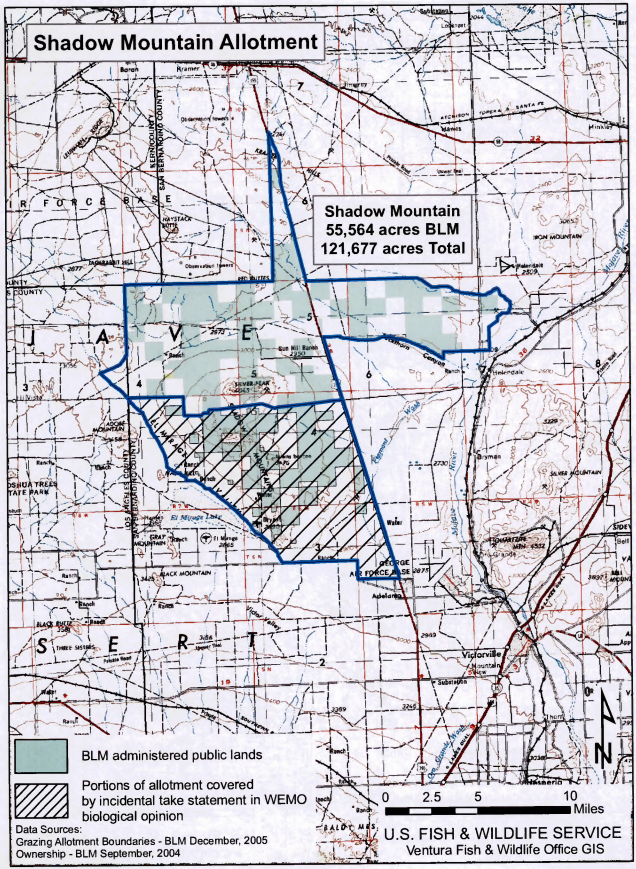

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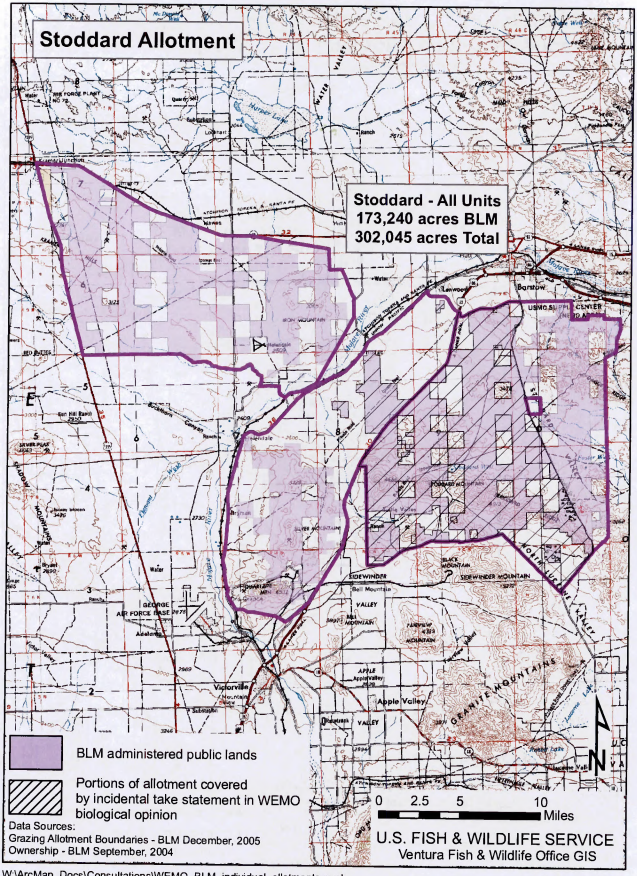

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APPENDIX G

WEMO TRAVEL MANAGEMENT PLAN IMPLEMENTATION

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APPENDIX G
Draft WEMO Travel Management Plan Implementation

I. Introduction

In accordance with current Bureau Policy (H-8342.1, Section VI), all Travel Management Plans (TMP) shall include an implementation plan. This implementation plan should include the framework for making final decisions on how each TMP will be designed, operated, and funded. The WEMO Transportation and Travel Management (TTM) implementation plan includes the following elements: Management Objectives, Network Design, Signing, Education, Enforcement, Rehabilitation, Mapping, Maintenance, Monitoring, Adaptive Management, Supplementary Rules, and Funding.

The Implementation Plan will be the guiding document for implementation of the travel network and will provide the plans and procedures to be accomplished relating to route conditions and usage. Further planning decisions and changes may occur in accordance with the Plan Amendment objectives and the objectives of the Travel and Transportation Management TTM plan.

Specific strategies for implementing each TMP will be included in the FEIS, upon selection of the proposed action.

An underlying principle of the WEMO Transportation and Travel Management (TTM) implementation strategy is to promote area-wide plan success. This involves essential elements of the implementation plan coming together into a coordinated framework, so that necessary actionable information is shared between appropriate personnel within BLM as well as partners, and that the actionable information includes appropriate follow-through. An integrated strategy is under development at this time and will be included in the proposed plans. Elements that are part of this strategy are outlined below.

Implementation priorities may vary within each planning area. General priorities are based on the following criteria:

- Public information needs for the route network, including signing, outreach, kiosks, and other identified strategies
- Specific and/or multiple sensitive resources are present and being adversely affected or at risk
- Fiscal and human resources, including partnerships, are available to effectively and efficiently respond to and facilitate compliance
- Strategies have been identified in key implementation plans (e.g. ACEC Plans)
- Access needs are most evident

II. Management Objectives

Various Alternatives are under development to identify key Management Objectives of the WEMO TTM strategy that may include variations across travel management areas. Management Objectives consistent across all TMA are discussed in the following sections.

III. Network Design

Various specific route network design features are under consideration in the various alternatives. Overall Network Design is governed by the following principles:

- Design a system that is coherent, cohesive, and that recognizes and meets current and anticipated access and recreational needs;
- Design a system that can be responsive to new needs are identified and new decisions as they are made, without significant redesign;
- Design a system that recognizes and minimizes impacts to sensitive environmental and cultural resources, and that promotes public safety;
- Design a system that is responsive to various types of recreational activities; and

IV. Signing

The WEMO TTM strategy proposes to continue the policy that all open routes shall be signed. Basic principles that will be included in all TMP include:

- Area and public land identification.
- Entry kiosks and informational kiosks.
- Route numbers and the designation status of a route.

Signing will be designed to provide the public with clear and correct information to avoid off-network travel, damage to sensitive resources and areas, to prevent use conflict, and to direct the public to popular destinations. Maintenance procedures and schedules will be developed for signs and markers. This will include anticipated replacement needs.

Specific sign or communication/engineering may include:

- Designated Routes will be marked with brown flexible markers with standard decals.
- "Open" routes will be marked with route identification letters and numbers and arrow decals at intersections and along the route as necessary to indicate routes that are "open" for vehicle travel.
- "Non-Motorized Use Only" and "Non-Mechanized Use Only" routes will be marked with standard symbol decals indicating what mode of transportation is allowed.
- "Limited Use Only" routes will be marked with specific limitation symbol and/or other appropriate information indicating the type of restriction for that route. For example if the route is available to specified vehicles or that the route is available for limited season of use.

V. Education

An outreach and education program will be developed as a tool to facilitate the public education effort and enlist public support and assistance in maintaining the route network. The educational

and outreach program may be developed in collaboration with Federal, state, and county entities, established and emerging organizations and programs, and with public participation, and may include area-specific elements as identified in each TMP.

Key messages to communicate will be developed that reflect the sensitivity of resources in the area, the recreational opportunities the area offers, and the land ethics that are important to follow when utilizing public lands.

Potential Targeted Methods of Communication that can be identified to enhance access to information include:

- Desert Discovery Center and other outreach facilities
- School Presentations and tours promoting the BLM messages and outdoor multiple land uses, land ethics, leading to invitations for field tours;
- Informational Websites, potentially including downloadable items such as: maps, land use ethics, rules, historic and cultural settings, maps, air quality alerts, fire prevention restrictions,;
- Traditional maps, Brochures and Guides

Sustainable partnerships are essential to the successful implementation of the TMPs. These partnerships need to be coordinated, and include organizations that bring various interests and resources to the table, including non-profit and other private groups, governmental jurisdictions and organizations, educational groups, users and user organizations, local law enforcement, utilities and private businesses.

Financial resources for programs need to be identified and pooled with other partners. Programs also need to be prioritized and responsibilities assigned, to ensure sustainability.

VI. Enforcement

Barstow (BFO) and Ridgecrest (RFO) are the primary Field Offices within the BLM's California Desert District that manage the law enforcement operations within the WEMO area. However, certain law enforcement responsibilities within the WEMO area have been assigned to the Palm Springs/South Coast and Needles Field Offices. A brief description of law enforcement (LE) responsibilities is provided for Barstow and Ridgecrest Field Offices followed by a strategy for enforcement within the WEMO area. Within the WEMO route network law enforcement coverage is broken down into patrol sectors. A patrol sector is a geographic area that is assigned to a law enforcement Ranger for patrol, enforcement, and monitoring. The Subregions that fall within each patrol sector are listed along with other identified high value natural resources and other areas that place substantial patrol demands on the law enforcement officer assigned to that sector.

Background

The WEMO Planning area contains a significant number of unique and sensitive resources in its 3.1 million acres of public lands. Forty-five ACECs, including four DWMAs, are located partially or completely in the planning area. Twenty-one designated Wilderness Areas and four designated Wilderness Study Areas (WSA) are also found in the planning area. Six OHV Open

Areas that host hundreds of organized recreational and commercial activities are also found in the planning area.

These multiple resource and recreational values attract a large population located in Southern California and Southern Nevada. The physical and geographic description of the WEMO Planning area can best be described as "the recreation backyard" for over 17 million residents of Southern California, including visitors from Las Vegas, Nevada and areas far away as the Central Valley and urban areas of San Francisco. Within the planning area, the cities of Victor Valley, which combine to total over 600,000 people, the city of Palmdale, population 150,000 and Lancaster, population 160,000, form the largest population centers in the region. These cities are located in the southern and southwestern portions of the planning area.

The southern 2 million acres of the WEMO Planning area is primarily managed by the Barstow Field Office (BFO) and boasts several natural wildlife and archaeological areas; Afton Canyon, Rainbow Basin, Inscription Canyon, Salt Creek Hills, Juniper Flats and Harper Dry Lake. A predominate resident found throughout the area is the Desert Tortoise. The protection and conservation of its habitat is a major consideration in the BFO's management of public lands under its jurisdiction. In addition to resource protection and conservation, the BFO manages wilderness areas, designated wilderness study areas, and additional forms of multiple uses of desert resources, including the combined largest area of OHV Open Areas in the BLM. Recreational and commercial use opportunities include diverse activities ranging from annual off-highway vehicle events to major motion picture filming.

The portion of the WEMO Planning area that is covered by the BFO is geographically bounded by LA County to the west, Joshua Tree National Park to the southeast, the San Bernardino National Forest to the south, and Fort Irwin National Training Center to the north and the Mojave National Preserve to the east. San Bernardino County is home to over 1.7 million residents, and is the largest county in area within the United States. San Bernardino County land ownership is a pattern of "checkerboard" private, public, and State lands, due to early settlers to the area and expansion of the railroad development in the western United States.

The RFO manages approximately 1.8 million acres of public land within the California Desert District; of which 1.2 million acres are within the WEMO Planning area. Approximately 40% of the lands managed by the RFO are managed as Congressionally designated areas for conservation of wilderness values, including 17 of the 21 designated Wilderness Areas in the Planning Area and two of the four designated Wilderness Study Areas. Also located in the Field Office area are four Off Highway Vehicle areas which draw a significant number of visitors to the area.

The public lands managed by the Ridgecrest Field Office in the Western Mojave Desert are within a transition zone between the West Mojave Desert region and the Sierra, Great Basin and San Joaquin Valley bioregions, which results in the largest concentration of cultural sites in the CDCA. The lands are located in Kern, Inyo, Los Angeles, and San Bernardino Counties. The southern portions of the lands are approximately two hours north of the Los Angeles basin with its 17 million residents. The city of Ridgecrest, located roughly in the center of the area, has a population of roughly 30,000. While much of the planning area has a relatively stable population, due to the Military Base Realignment and Closure Act (BRAC), the city of Ridgecrest is expected to increase in population over the next five years. The public land ownership pattern is generally large contiguous blocks of public land in the central and northern

regions while in the southern region the land ownership is distinctly a checkerboard pattern with the land ownership being mostly private.

With this large number of residents in the area and its close proximity to the greater Los Angeles and Central Valley areas, Ridgecrest managed public lands host nearly 1 million recreation visits each year. A large number of these visitors recreate at the Spangler Hills, Jawbone, and Dove Springs Off-Highway Vehicle areas. While this represents a significant component of the visitor use, it must be noted that there are another 3000 miles of trails open to "limited use" by motor vehicles throughout the Field Office area. This presents a significant challenge to the law enforcement staff charged with the protection of these public lands.

Patrol

Law enforcement patrols within the WEMO planning area will be conducted and reported by patrol sector. The Subregions have been aligned with the patrol sectors. Law enforcement issues are documented in the law enforcement (IMARS) reporting system. The IMARS reporting system is a confidential law enforcement reporting system that is not publically available. The Chief LE Rangers provide reports from IMARS to their respective Field Managers. These reports allow each Field Manager and Chief Ranger to review the frequency of patrol and types of incidents documented in order to collaboratively monitor and direct further patrol and law enforcement activities.

Inter-disciplinary Management

In an effort to enforce the WEMO route network, interdisciplinary cooperation among staff is stressed. As part of this interdisciplinary team approach LE Rangers work closely with resource, recreation, and maintenance staff to capture information, statistics and maintenance needs and specific locations. Once trends or needs are assessed, the Field Managers prioritize resources and direct additional LE patrol in specific Subregions as needed.

Law enforcement patrol efforts are both proactive and preventive along with being responsive to complaints. Patrols are conducted on a periodic basis depending on priorities throughout the planning area. Patrols are prioritized based on factors such as public safety, resource protection, and public use patterns

Goals for a successful enforcement plan include:

- Improve upfront information on the nature, timing, and location of problems to utilize better preventive strategies and result in more effective and timely law enforcement response.
- Increase the presence of non-BLM law enforcement, other staff and volunteers to increase the effectiveness of BLM law enforcement in the area. Improve and expand interagency cooperation in the area.
- Increase enforcement capacity, including the use of new technology, modelling, and specific strategies to be used by BLM law enforcement.
- Encourage educational and monitoring efforts by volunteer user groups and citizen-based education groups, which can increase law enforcement educational efforts.

VII. Rehabilitation

Rehabilitation of transportation linear disturbances and disturbed areas would be accomplished in a phased fashion and may include the following:

1) Signing and otherwise clarifying the open route network;
2) Removal of foreign debris and trash or other off-route attractants;
3) Raking or otherwise disguising with materials at hand the closed routes;
4) Ripping compacted soil and seeding with a native seed mixture;
5) Planting native or dead vegetation;
6) Placement of closed signs in appropriate locations, and
7) Placing hardened barriers, fencing, or appropriate gates in the area to prevent impacts to the rehabilitation site.

Vegetation growing in the path of new primitive roads or trails developed under authorization maybe salvaged and relocated to routes or other disturbed lands in the immediate area or other areas in need of such vegetation as determined by the BLM.

VIII. Mapping

Mapping may include both traditional hard copy maps that are provided through BLM and non-BLM outlets and partners, and electronic media versions. These may include downloadable maps that can be utilized by an electronic device, web-downloadable maps and interactive maps from the BLM or non-BLM sites that provide information on such features as specific destination, trailheads, campsites or other items of importance and interest to the viewing public.

IX. Maintenance

Maintenance will include a regular program of sign replacement and monitoring and reporting by staff that provides for timely replacements and documentation of other maintenance needs. Most routes in the network do not include regular maintenance requirements. Routes that do include such requirements will be identified and put into the Recreation Management Information System (RIMS) and/or Facility Asset Management System (FAMS) to assure appropriate funding can be provided.

X. Monitoring

The BLM will implement a monitoring and evaluation program for the area to identify and address ongoing and emerging issues that may adversely impact the resource and/or visitor experience. The data monitoring will evaluate implementation progress and the effectiveness of the Plan in achieving desired outcomes and conditions as well as identify adaptive measures should adverse impacts or changing conditions be discovered. The monitoring effort shall identify specific actions, including timeframes, methods, and anticipated resource needs for

environmental monitoring. The monitoring program will evaluate:

- If recreation objectives are being met;
- Use patterns and volumes;
- Condition of roads and trails and the condition of public use areas, and
- Compliance with planned designations and use restrictions

Limits of Acceptable Change indicators, or triggers, requiring adjustments to this management plan will be identified based on the above monitoring and evaluation factors and may address:

- Effectiveness of closure, signing, and rehabilitation efforts.
- Effectiveness of stopping, parking and camping strategies utilized to minimize impacts from recreation and travel use of the network.
- Priority/Special Status species habitat conditions resulting from recreation or travel impacts.
- Cultural site condition and vandalism resulting from recreation or travel impacts or access.
- Riparian condition trend resulting from recreation or travel impacts.
- Watershed condition trend resulting from recreational or travel impacts.
- Visitor safety issues.

Some features of the monitoring plan may include:

- Photo-monitoring. For priority areas, photo monitoring points will be documented using GPS and a monitoring schedule will be established;
- The monitoring data collected will be used to assess the effectiveness of the plan and associated implementation actions, and identify adaptive management strategies;
- The route network would be monitored for indications of new proliferation and "Closed" routes would be monitored for indications of use every three years using aerial photography;
- Additional route network monitoring would be conducted in association with signing and rehabilitation activities;
- The plan area will be monitored for signing condition and replacement.
- Rehabilitated routes will be monitored to determine effectiveness of measures;
- Upland health assessments will be conducted as warranted;
- Riparian health assessments will be conducted for areas that are impacted by the network; and
- Digital data will be created and stored to document conditions and monitoring activities.

XI. Adaptive Management

Adaptive measures will be implemented on an appropriate area-wide basis based on the evaluation factors and threshold identified in the monitoring plan, specific on-the-ground factors that indicate a substantive need, unknown information that becomes available at a later date in time, and new opportunities and partnerships that are established. Appropriate area of application may be planning area, travel management area, or subregion, based on the data collected and the adaptive management approach identified. Records of TMA-specific or subregion-specific strategies and their success will be documented to establish long-term trends in overall effectiveness of the plan.

The inventories for this project have identified almost 15,000 miles of routes in the planning area. This is over 7,200 miles of additional on-the-ground linear features (aka routes) identified through the 2012 field monitoring and aerial photo review that had not been addressed, but appear to have been identifiable at the time of the 2006 WEMO Plan. The WMRNP conducted a complete inventory of the planning area in 2012-2013 to provide a useful baseline for analysis and implementation of the adopted strategies and network. A designation determination was made on each route in the inventory, based on the designation criteria, alternative goals and objectives, and the analysis of impacts.

The 2006 WEMO Plan indicated that some features could not be located on the ground (10-13%). As monitoring proceeds, additional information will verify the existence and condition of the routes in the 2012-2013 inventory. If linear features in the WMRNP inventory show evidence of natural rehabilitation and are not readily apparent to the casual passerby on-the-ground, they may be removed from the inventory. If linear features are found on the ground that show signs of use but were missed in the inventory process, and through document review can be determined to have existed at the time of initial project development they will be added to the route system, and evaluated through the route designation process to determine whether they should be designated as available for use or not.

Additionally on newly acquired lands, transportation linear features would be inventoried and designation would comply with applicable federal regulations and statutes, and be incorporated into the overall route implementation process. New route networks on acquired lands would be required to facilitate conservation programs and be complimentary to the network resulting from alternative implementation.

Finally, as additional information becomes available within the WEMO Plan Area, the BLM will manage the designated routes for the protection of cultural and natural resources, including desert tortoise. As areas of resource conflicts are identified via monitoring and future inventory activities, the BLM will continue to evaluate the designated road and trail network, to ensure it continues to meet the objectives of 43 CFR 8340, the applicable land use plan goals and objectives, and applicable laws and regulations. The network will be reviewed to assess its effectiveness at meeting current travel management objectives and at addressing current and changing land use plan goals and objectives. Adaptive management may include changes in the adopted travel management system or measures to avoid on-site and off-site effects on current and future land uses and important resources; among others, issues include noise and air pollution, erodible soils, stream sedimentation, nonpoint source water pollution, listed and sensitive species habitats, historic and archeological sites, wildlife, special management areas, and recognition of property rights for adjacent landowners. Route designations or other actions in this plan could be modified based on monitoring results, or to accommodate land use proposals. All required clearances and analyses would precede needed modifications to the transportation

and travel management plan.

XII. Supplementary Rules

Following approval of the proposed plan Supplementary Rules may be developed in accordance with 43 CFR 8365-1.6 as determined necessary to implement the plan.

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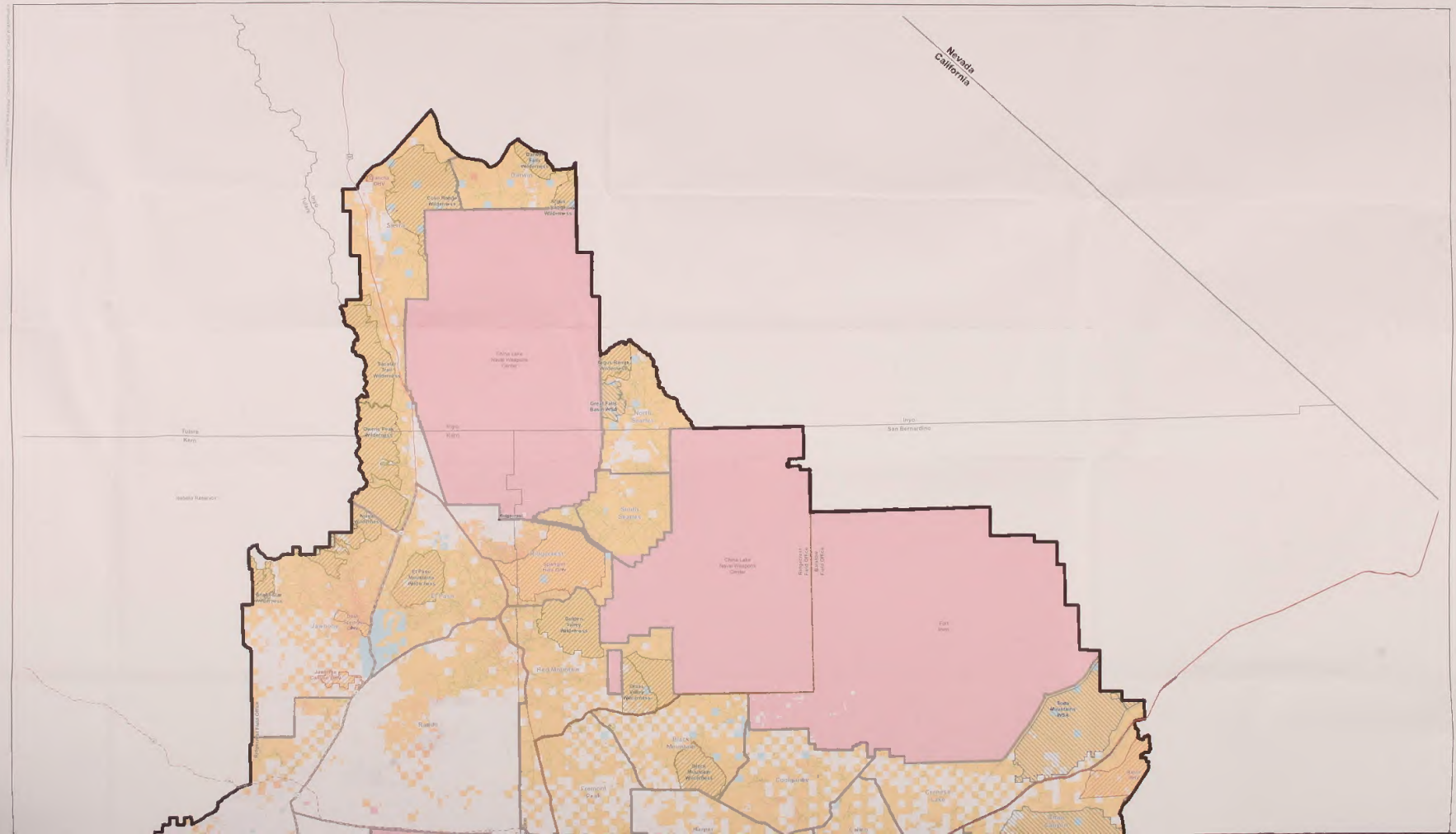
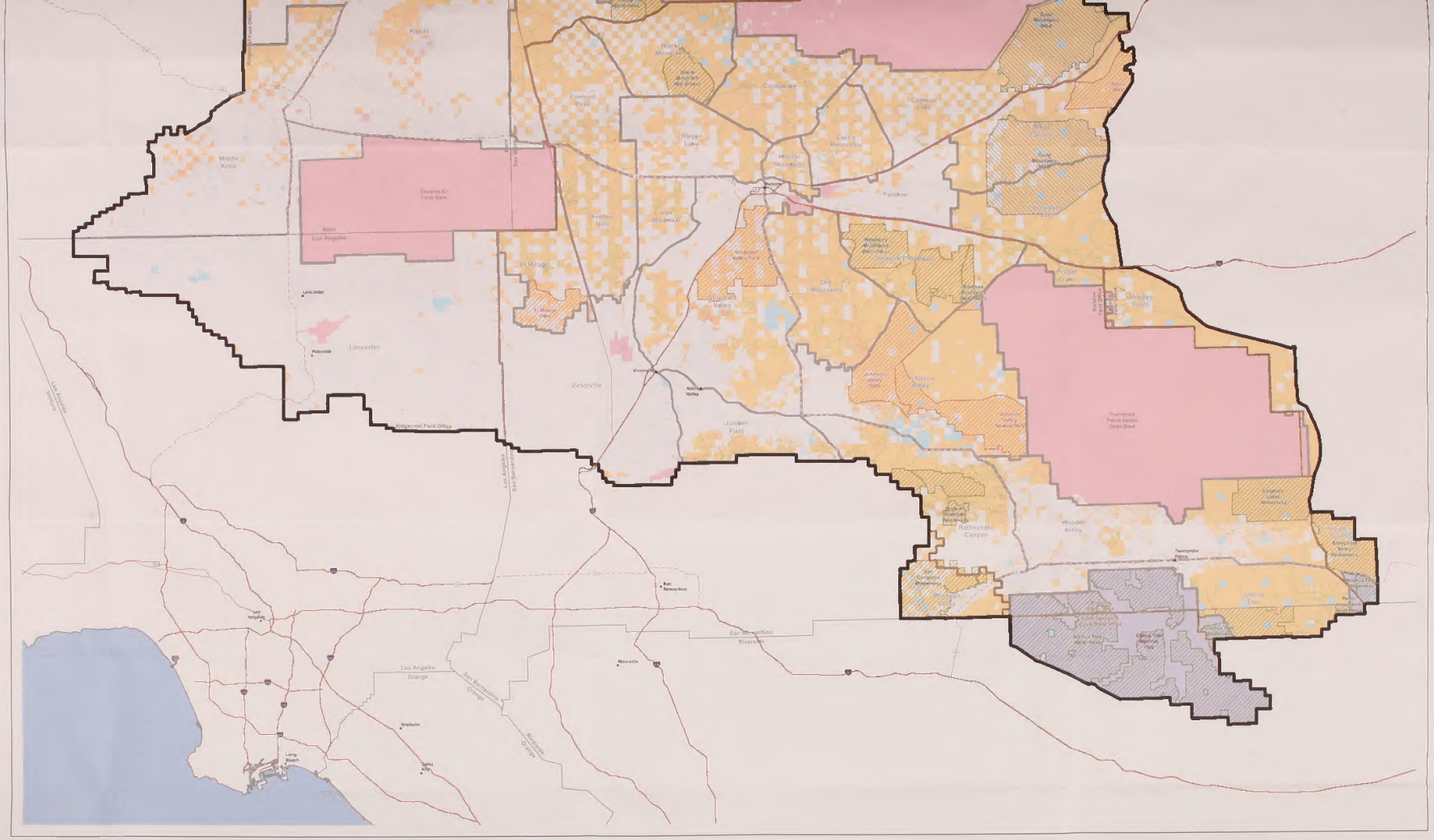
Western Mojave Supplemental EIS
Figure 2.3-1 Alternative 1 - 2014 West Mojave Route Network





Alternative 1 Route Designation
- Motorized
- Non-mechanized
- Transportation Linear Disturbance
- Non-BLM

- OHV Open Area
- Wilderness Area
- Wilderness Study Area
- WEMO Planning Area
- WEMO Subregion
- BLM Field Office Boundary

Land Ownership
- Bureau of Indian Affairs
- Bureau of Land Management
- Department of Defense
- Local Government
- National Park Service
- State Land
- Private

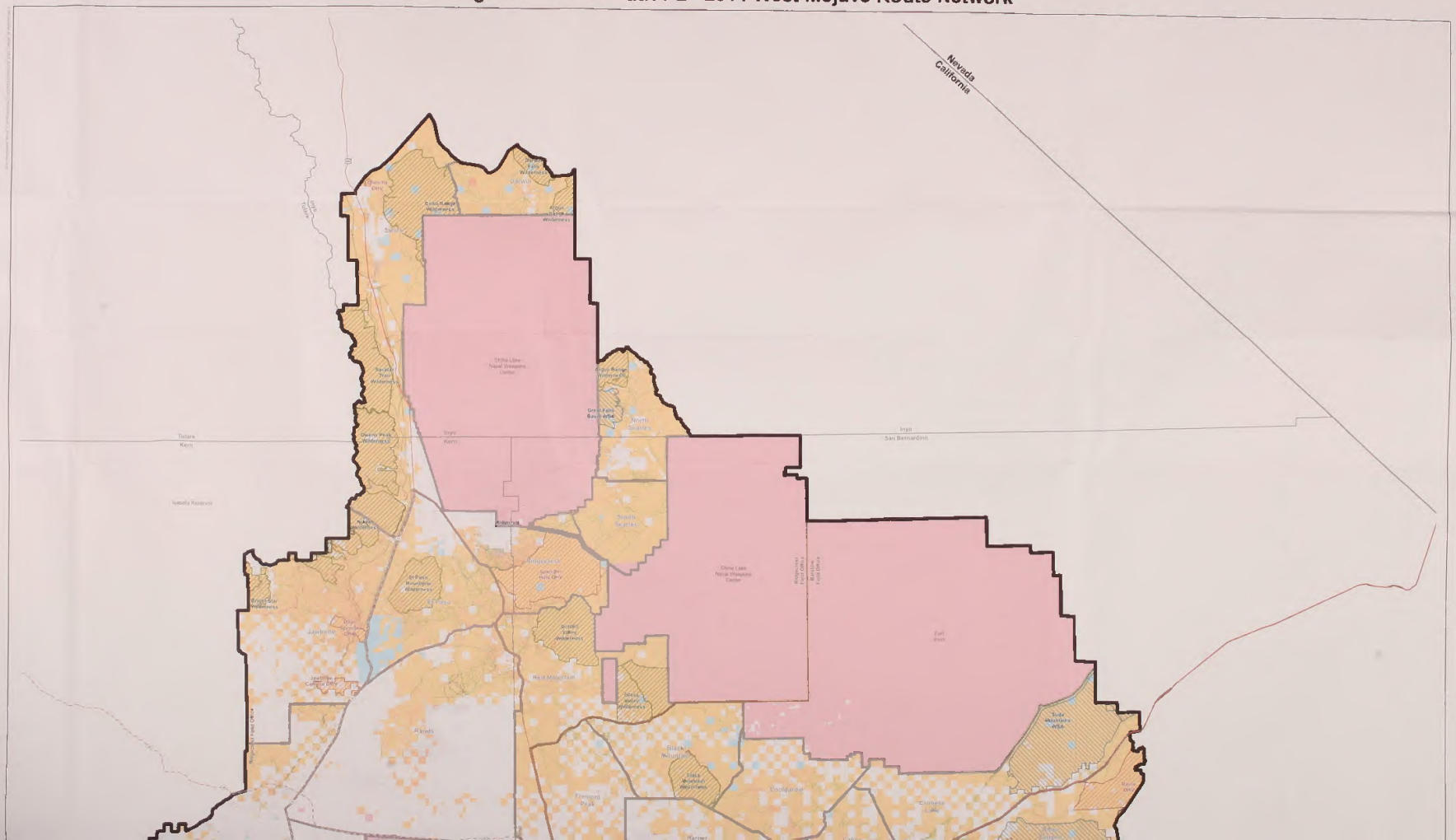
20 15 10 5 0 20
Miles

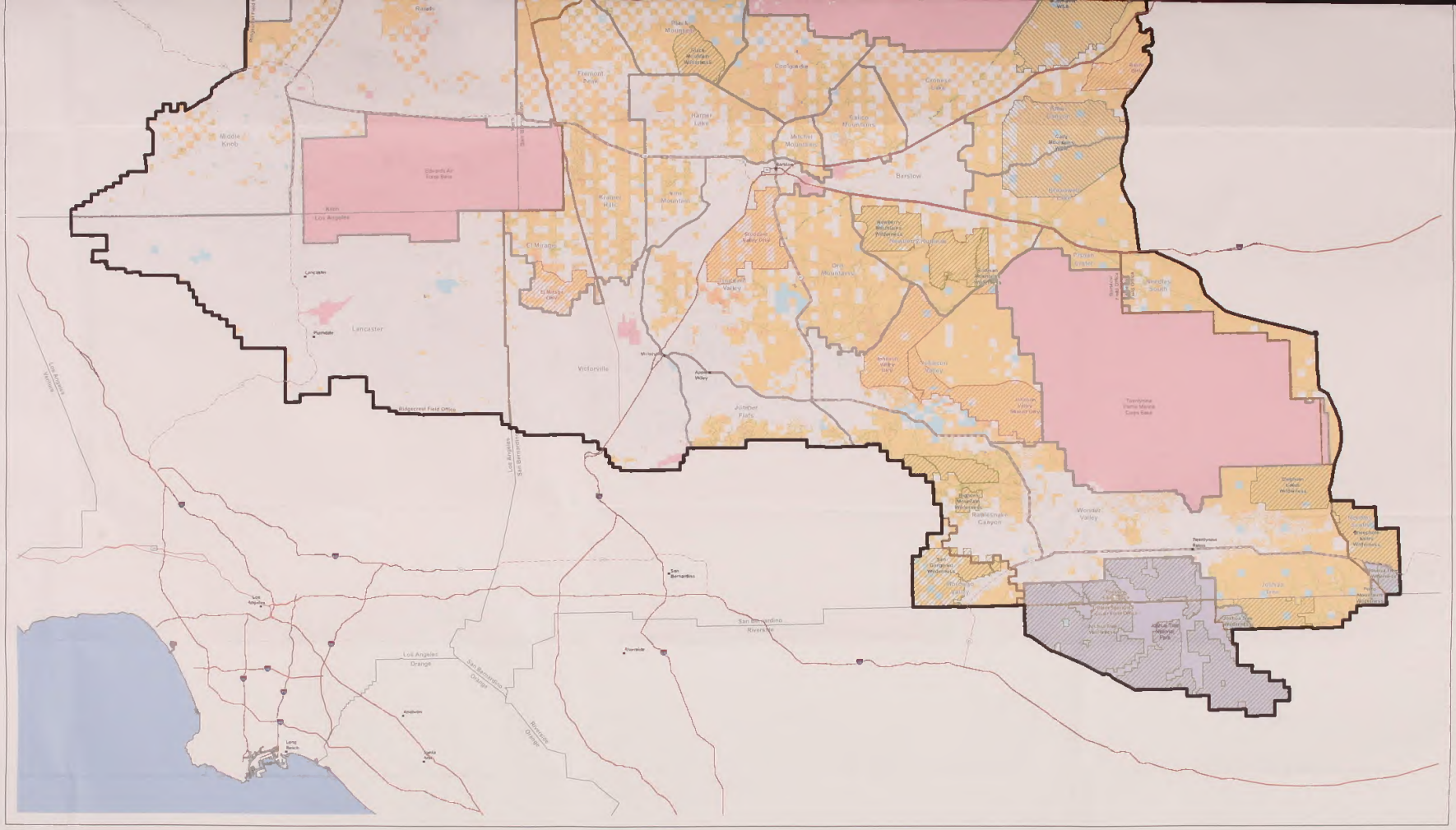
1:400,000

N

Coordinate System: Universal Transverse Mercator (UTM) NAD83

Western Mojave Supplemental EIS
Figure 2.3-4 Alternative 2 - 2014 West Mojave Route Network





Alternative 2 Route Designation

- Motorized
- Non-motorized
- Non-mechanized
- Administrative/ Authorized Use Only
- Transportation Linear Disturbance
- Non-BLM

- OHV Open Area
- Wilderness Area
- Wilderness Study Area
- WEMO Planning Area
- WEMO Subregion
- BLM Field Office Boundary

Land Ownership

- Bureau of Indian Affairs
- Bureau of Land Management
- Department of Defense
- Local Government
- National Park Service
- State Land
- Private

20 15 10 5 0 20

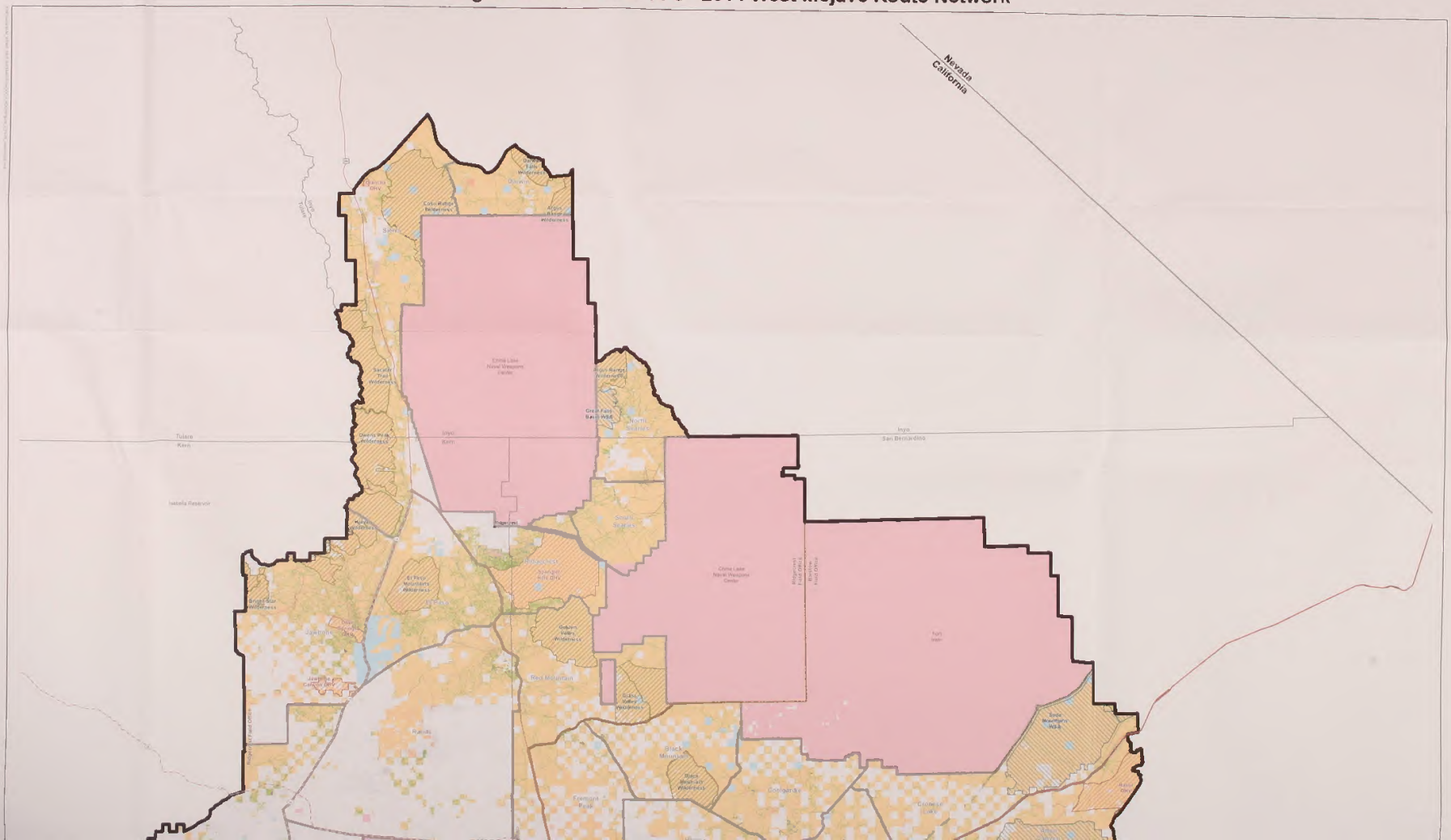
Miles

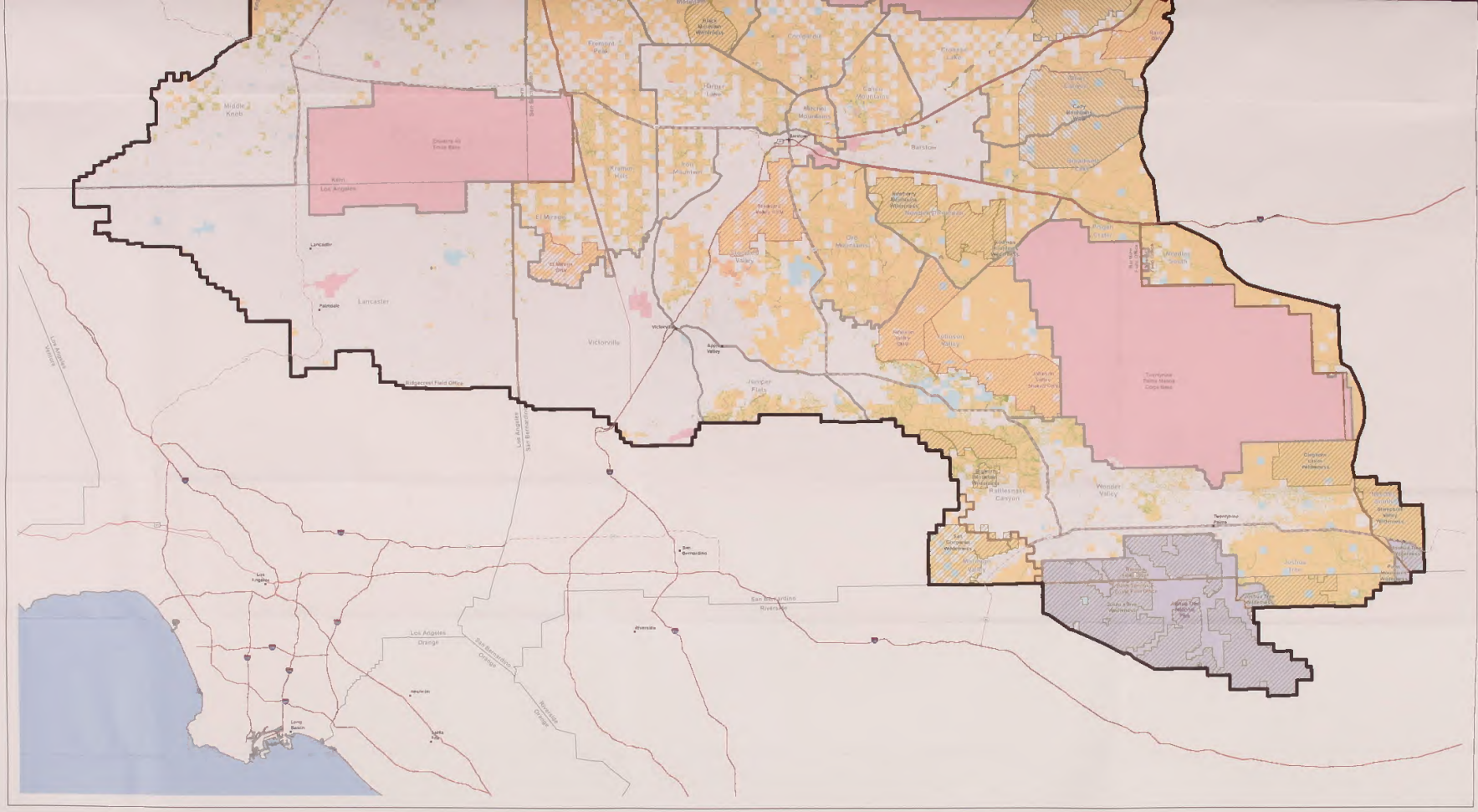
1:400,000

N

Coordinate System: Universal Transverse Mercator (UTM) NAD83

Western Mojave Supplemental EIS
Figure 2.3-5 Alternative 3 - 2014 West Mojave Route Network





Alternative 3 Route Designation

- Motorized
- Non-motorized
- Non-mechanized
- Administrative/ Authorized Use Only
- Transportation Linear Disturbance
- Non-BLM

- OHV Open Area
- Wilderness Area
- Wilderness Study Area
- WEMO Planning Area
- WEMO Subregion
- BLM Field Office Boundary

Land Ownership

- Bureau of Indian Affairs
- Bureau of Land Management
- Department of Defense
- Local Government
- National Park Service
- State Land
- Private

20 15 10 5 0 20

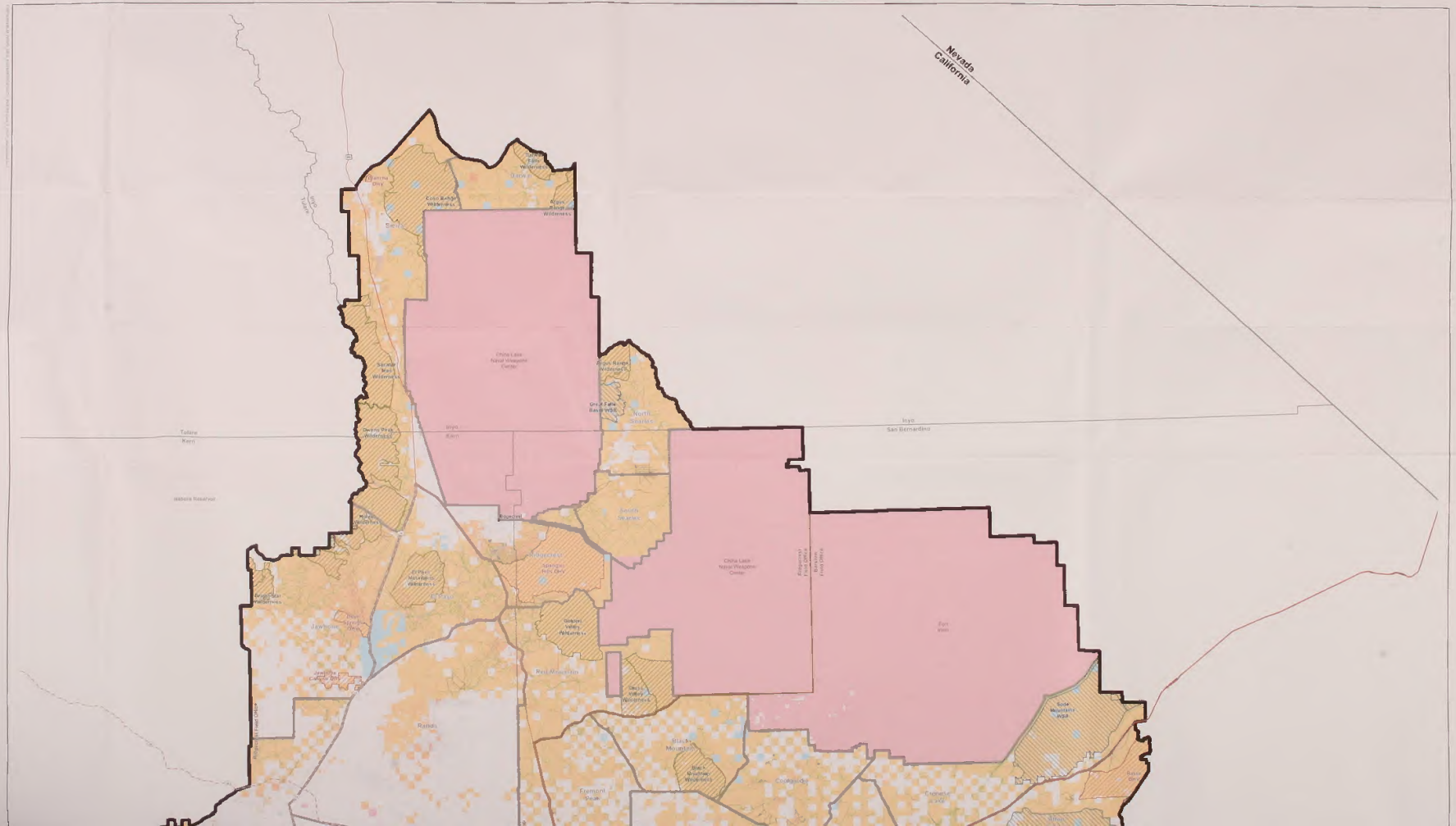
Miles

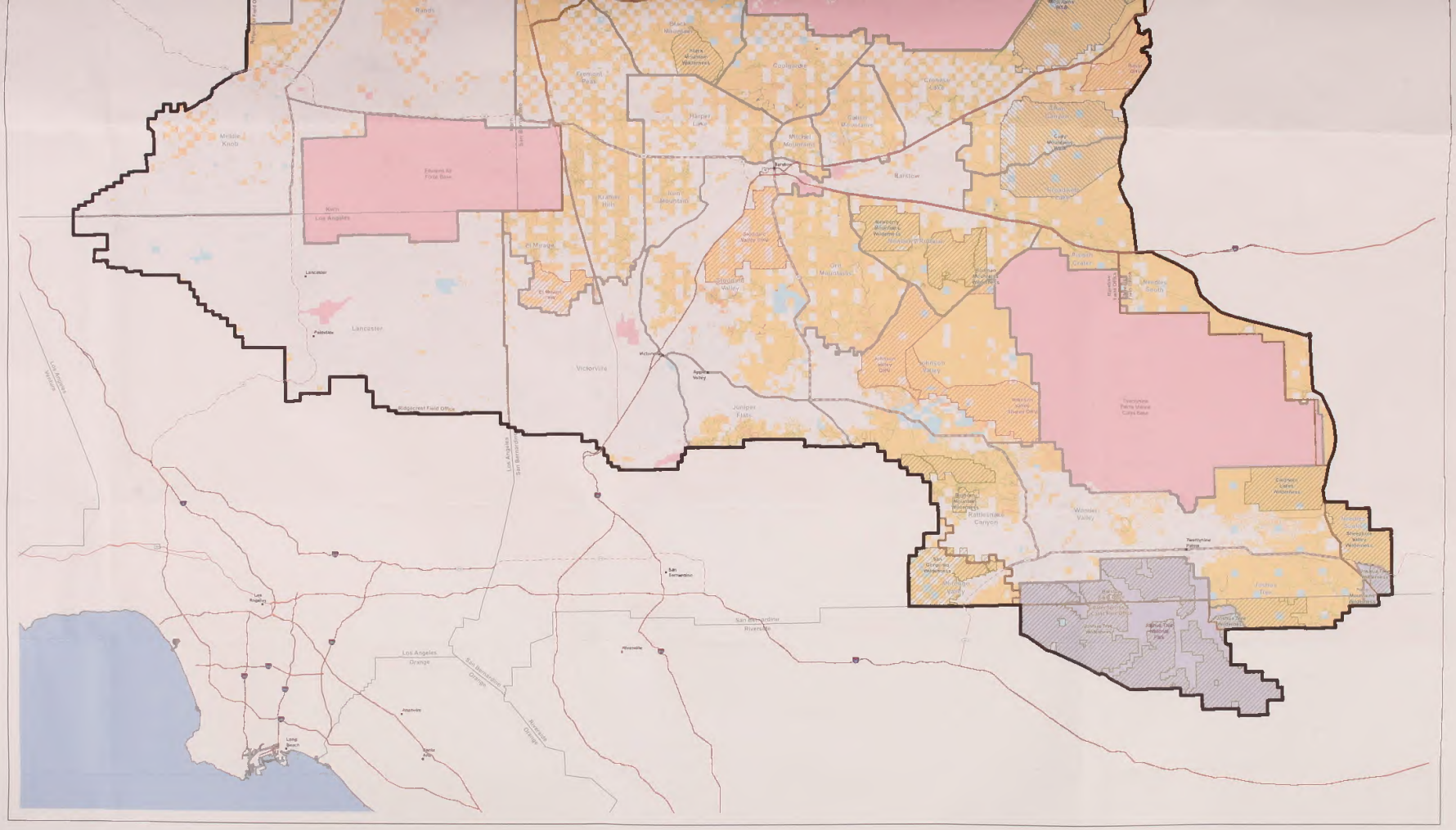
1:400,000

N

Coordinate System: Universal Transverse Mercator (UTM) NAD83

Western Mojave Supplemental EIS
Figure 2.3-7 Alternative 4 - 2014 West Mojave Route Network





Alternative 4 Route Designation

- Motorized
- Non-motorized
- Non-mechanized
- Administrative/ Authorized Use Only
- Transportation Linear Disturbance
- Non-BLM

- OHV Open Area
- Wilderness Area
- Wilderness Study Area
- WEMO Planning Area
- WEMO Subregion
- BLM Field Office Boundary

Land Ownership

- Bureau of Indian Affairs
- Bureau of Land Management
- Department of Defense
- Local Government
- National Park Service
- State Land
- Private

20 15 10 5 0 20

Miles

1:400,000

N

Coordinate System: Universal Transverse Mercator (UTM) NAD83